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DIAGNOSIS AND TREATMENT OF NEUROSYPHILIS

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IN presenting the subject of syphilis of the nervous system, one may begin with the initial infection, trace its progression into the nervous system and describe the havoc it works there; or one may follow the course by which our knowledge of it was attained. The former is easier to do; the latter, we believe, is more instructive to the practitioner, and so we shall attempt this somewhat unorthodox approach.

We may start early, but not quite at the beginning, by noting that the versatile Girolamo Fracastoro, of Padua, was not only an astronomer like his colleague, Nicholaus Koppernigk, but also a poet and above all an eminent epidemiologist. Padua had been hit hard by a great pandemic, which this writer of hexameters traced to a shepherd called "Syphilus." "Lues" is a much older latin word that meant simply "plague," and only later was the term restricted to this particular plague.

It was the cutaneous manifestations of the disease that engrossed the early writers. They did speak of headache, but centuries passed before there appeared any enlightenment on the neurologic sequelae that assume so prominent a position in syphilitic symptomatology, and their history has been pieced together with uncertainty and in retrospect.

Dementia Paralytica

In his "Observations on Madness and Melancholia," in 1798, John Haslam offered a clinical portrayal of dementia paralytica, and in 1826, Calmeil coined the term "general paralysis of the insane." In a sense this term was poorly chosen. These patients do become demented but not paralyzed, although they often complain of weakness, take to bed early and simply stay there. In 1853, long before the discovery of the spirochete and positive reactions in blood and spinal fluid, Esquirol, the immediate successor of Pinel, suspected its syphilitic origin. In 1906, Wassermann's discovery implemented the statistical approach and in 1913, Noguchi and others were able to demonstrate the Treponema pallidum in the brain.

Dementia paralytica overtakes about 5 per cent of neurosyphilitics and usually becomes evident in patients between the ages of thirty and fifty years, some five to fifteen years after the initial infection. It appears earlier in men than in women and affects them at least twice as often. The onset is insidious and is characterized by slight defect in memory, conduct and personal appearance and by increasing irritability and fits of temper. There is a blunting for regard of social and moral conventions; the first overt impropriety may be the pouring of champagne into a lady's pocket or urinating on the street. The mood may become gay and generosity extravagant, or the patient may become depressed and hypochondriacal, or he may sink gradually into an apathetic dementia. He may become paranoid, delirious or merely somnolent. While these personality changes are in progress, there may be interspersed convulsions and strokes of various kinds. The final scene is one of intellectual dilapidation, im-

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mobility and filth. The course of the illness may be acute or chronic, but if untreated, it generally lasts about three years.

From a neurologic standpoint, the sagging, tremulous features and the slovenly articulation at once attract attention. The pupils may be irregular, small or unequal, and often show the Argyll Robertson phenomena. The tendon reflexes are usually increased. There may be palsies of the cranial nerves and signs of focal damage to the brain.

The blood and spinal fluid findings are more persistently positive than in any other type of neurosyphilis. The serologic tests of blood and spinal fluid for syphilis usually give positive results. In the spinal fluid small and large lymphocytes and occasional neutrophils are present, protein is increased and Lange's colloidal gold curve is usually zone one. The diagnosis of dementia paralytica should be based on clinical signs, but the blood and spinal fluid picture just described, even without conclusive clinical evidence, justifies anticipation of eventual general paresis and is often referred to as paresis sine paresi. Its clinical counterpart, but without syphilis, is referred to as pseudoparesis and may be caused by alcoholism, arteriosclerosis, lead poisoning and other toxic states.

Tabes Dorsalis

Wasting of the back, or tabes dorsalis, according to Gowers, was a designation already applied by Hippocrates to all chronic paraplegias. It was Romberg who restricted the term to a wasting of the posterior columns of the spinal cord. Priority for a description, in 1851, of tabes that leaves little to be desired and that relates the clinical picture to shrinking of the posterior roots and columns of the spinal cord is usually assigned to him. An equally familiar name of the syndrome we are discussing is "locomotor ataxia." To escape the usage of Greek words, "offensive alike to the tongue and to the ear," as Duschenne said in 1872, "I was obliged to call the disease after one of its chief symptoms, viz., the progressive loss of the co-ordination of movement. The name 'progressive locomotor ataxy' seems to me to give the most exact idea of this kind of motor trouble." Of syphilis, he said, "I could not feel certain as to the relationship of syphilis and locomotor ataxy." He was more inclined to think of "moral causes," by which he meant mental suffering, or to use the phrase so current nowadays, "psychosomatic." Fournier, in 1876, was the first to assert the wide extent of the relation of syphilis to tabes. As late as 1888, Gowers wrote "Among the individual causes, one overshadows all the rest—the influence of syphilis. The lesion is not syphilitic in histologic character. It is moreover rarely influenced by antisyphilitic treatment. It must be regarded as a degenerative sequel of syphilis rather than a true syphilitic disease." For much the same reason and because gummas were never found, the great Virchow, who had asserted that tabes was caused by syphilis, reversed his opinion.

The assembling of the hierarchy of tabetic symptoms and signs, relating them to disease of the posterior columns of the spinal cord and proving this condition to be due to syphilis can be said to have required the combined efforts of many workers. Here, as in paresis, the introduction of the Wassermann reaction and discovery of the Spirochaeta pallida in the spinal cord cleared away remaining doubt.

Tabes develops in less than 10 per cent of neurosyphilitics; it affects men more often than women, and symptoms and signs usually delay their appearance until five to fifteen years after the initial infection. One of the earliest symptoms is "lightning pains." Although not quite pathognomonic of tabes, it is so suggestive that its behavior merits more detailed consideration. Lightning pains may appear anywhere in the body, but they are much more common in the lower extremities and are more distinctive when they occur at some distance from a joint. They tend to come in showers, often in a dollar-sized spot, which in turn becomes sensitive to the lightest touch but not to heavy pressure. They may make the patient feel as though the area had been touched by a lighted cigaret, but they do not exceed seconds in duration. They may seem to be linear streaks of pain that explode terminally like a rocket. One physician who had tabes compared them to the flight of lightning bugs. Lightning pains may occur in diabetic neuritis, in multiple sclerosis, in syringomyelia, in migraine and sometimes without demonstrable cause.

Also common in tabes is the girdle pain which causes the patient to feel as though a belt had been drawn too tightly round the waist or thorax.

For still another type of pain, let us turn to one of Charcot's lectures: "But of all the visceral symptoms which may display themselves, from

the period of lightning pains, which is at once the most remarkable and the least known, if I mistake not, is that which I have proposed to designate by the name of gastric crisis. . . . But the connection which really exists between gastric crises and locomotor ataxy appears to me to have been pointed out for the first time, by M. Delamarre, author of a thesis bearing the date 1866 and entitled 'Gastric Troubles in Locomotor Ataxia.' "

Especially suggestive of gastric crises is a midline epigastric or abdominal pain that may be mild or gruesome in intensity, that begins abruptly, may continue for hours, days or weeks, and, if there is no additional complication such as gastric or duodenal ulcer, ends abruptly. A period of convalescence is missing, and the patient is found sitting up prepared to eat a banquet meal. During the crisis, the patient does not tolerate the lightest touch of a sheet on the abdomen but raises no objection to a fist sunk deeply into it. A gastric crisis may be attended or entirely replaced by nausea. The patient then presents a most pathetic sight as he lies over the edge of the bed with a stream of saliva running out of his mouth from morning until night.

For years either lightning pains or crises may constitute the whole symptomatology of the disease. Typical crises may also occur with migraine, or as a familial disorder, or they may remain unexplained. Other kinds of crises, too, such as laryngeal, testicular and rectal, may occur with neurosyphilis.

Blindness, caused by simple optic atrophy, may appear early or late, and ophthalmoplegias of the external ocular muscles are not infrequent.

A common symptom, indeed the one by which Duchenne called the disease, is locomotor ataxia. Moritz Heinrich Romberg, professor of medicine, University of Berlin, described it well:

"The rider no longer feels the resistance of the stirrup, and has the strap put up a hole or two. The gait begins to be insecure, and the patient attempts to improve it by making a greater effort of the will; as he does not feel the tread to be firm, he puts down his heels with greater force. From the commencement of the disease the individual keeps his eyes on his feet to prevent his movements from becoming still more unsteady. If he is ordered to close his eyes while in the erect posture, he at once commences to totter and swing from side to side; the insecurity of his gait also exhibits itself more in the dark. It is now ten years since I pointed out this pathognomonic sign . . . and it is a symptom which I have not observed in other paralyses, nor in uncomplicated amaurosis. . . ."

The explanation of this symptom caused great difficulty, since the posterior columns could be destroyed and yet the patient acknowledged no deficit in the appreciation of scratching, pricking or pinching the skin, since the relationship of the posterior roots to the posterior columns was not known and since the posterior columns of the cord seemed to be related to the cerebellum. It was generally thought that degeneration of the posterior columns intercepted cerebellar control.

Now let us hear what Charcot had to say, in 1868, about another phenomenon most often found in tabes:

"Allow me to fix your attention for an instant upon this species of articular affection, in which I take a paternal interest, all the more lively because the significance I attach to it has had to counter many skeptics. And at first, a word as to the clinical characters of the arthropathies of ataxic patients. . . . Without any appreciable external cause, we may see, between one day and the next, the development of a general and often enormous tumefaction of the member, most commonly without any pain whatever, or any febrile reaction. . . . On puncture being made, a transparent lemon-colored liquid has been frequently drawn from the joint. . . .

"One or two weeks after the invasion, sometimes much sooner, the existence of more or less marked cracking sounds may be noted, betraying the alteration of the articular surfaces. . . .

"Ataxic arthropathy usually occupies the knees, shoulders, and elbows; it may also take up its seat in the hip joints—it is in the grey matter of the anterior cornua of the cord that the starting point of this curious complication of the ataxia is to be found according to our belief."

Sensory impairment and trauma are conditions attending the development of Charcot's joints, but there is doubt that these insults alone suffice to explain the arthropathies. The same phenomenon may be expected to occur and does occur in syringomyelia.

Trophic ulcers, usually situated on the ball of the foot and so often associated with other diseases in which sensation may be impaired, such as diabetic neuritis and myelodysplasia, are of frequent occurrence in tabes.

It must be noted that tabes is by no means an unadulterated parenchymatous myelopathy. Meninges and vessels may be affected in characteristic syphilitic fashion and thus superimpose an endless variety of symptoms.

There are certain objective findings of tabes

that pre-empt our attention. First is the Argyll Robertson pupil which, properly considered, has five characteristics: the presence of vision, a small pupil, a pupil that contracts poorly or not at all to light, one that reacts to accommodation, and one that responds imperfectly to belladonna. In 1869, Robertson, whose full name is Douglas Moray Cooper Lamb Argyll Robertson and should not be hyphenated, published a paper bearing the title "On an Interesting Series of Eye Symptoms in a Case of Spinal Disease with Remarks on the Action of Belladonna on the Iris, and so forth" and somewhat later a paper entitled "Four Cases of Spinal Myosis with Remarks on the Action of Light on the Pupils." Romberg had previously mentioned a contraction, even to the size of a pinhead, with loss of motion in one or both eyes. Merritt and Moore pointed out that there is only one situation in which a lesion can destroy both the light reflex and the sympathetic pathway and this is just ventral to the posterior commissure. The incomplete Argyll Robertson pupil has been seen unrelated to syphilis in epidemic encephalitis, alcoholism, tumor, syringomyelia and rarely as an heredofamilial characteristic. A small pupil that contracts to a point on conversion may also be observed with postural hypotension but not necessarily because of it. A larger pupil that reacts so very slowly to light and to conversion that this may escape notice and so be mistaken for the Argyll Robertson sign is the tonic pupil. Unfamiliarity with it may cause even greater confusion when it is coupled with loss of one or more tendon reflexes. This is a harmless situation known as Adie's syndrome.

Next, perhaps, should be mentioned loss of the tendon reflexes. Karl Westphal, in 1875, was the first to point out that a lost knee jerk is one of the earliest and most constant signs of tabes. Such loss is readily explained by encroachment of the pathologic process on the posterior roots, thereby interrupting the reflex arc.

Disease of the posterior roots probably accounts also for the involved pattern of sensory disturbance, one of the cardinal findings by which we may recognize tabes dorsalis as such. Appreciation of touch, pain and temperature may be impaired, lost or perverted, individually or in various combinations. The distribution of these changes is segmental, and the parts affected most commonly are the lower extremities, then the thorax and median aspects of the upper extremities, and finally the face. A pin applied to a toe or the dorsum of the foot may bring forth prompt acknowledgment of contact, but only seconds later an appreciation of pain, not a bright pain but a lingering and sometimes repetitive burning sensation that may be referred to some entirely different location, such as the opposite extremity. So kaleidoscopic a series of sensations may be provoked by a few pin pricks that the examination may have to be interrupted until they subside. Similar hyperpathic and perverted sensations also occur in syringomyelia, multiple sclerosis and neuritis. It is important that the thoracic zone be examined with care since sensory changes here are particularly helpful in diagnosis but are often overlooked. The sensory loss may be profound. Oppenheim spoke of a woman who had unknowingly pinned a corsage directly to her breast and had worn it throughout an evening's entertainment.

A patient having tabes is often exquisitely sensitive to changes in temperature, so that the application of a cold test object to the abdomen or of a tincture to the back before making a spinal puncture may all but send him flying to the floor.

Appreciation of movements of the joints, especially of the toes, may be difficult. In tabes this loss is often greater than is loss of appreciation of vibration and in this respect differs from the usual finding in subacute combined degeneration of the spinal cord.

Sensitivity of deeply lying structures is often impaired more profoundly than is sensitivity of the overlying skin. This disassociation is one of the most characteristic features of tabes and almost at once distinguishes it from polyneuritis, in which superficial sensation may also be impaired. Since muscles, larger nerves, eyeballs, epigastrium and testicles may be viciously squeezed without eliciting discomfort, care should be exercised in carrying out tests related to these structures. A gastric ulcer may perforate or an appendix may rupture without giving the attending physician any warning that a catastrophe is under way.

The sphincters are often relaxed and the finding of a cord bladder is common and diagnostically helpful.

The signs we have described usually serve to distinguish tabes from other neurologic disorders, such as cerebellar disease and polyneuritis. Combined sclerosis of the spinal cord may be simulated, and it is not surprising that, in 1884, Lichtenstern

wrote on tabes complicated by progressive pernicious anemia. Two years later, Lichtheim reversed the sequence and reported pernicious anemia complicated by subacute combined sclerosis. Occasionally a trap is set. When these patients were treated with arsenicals, they sometimes became even more disabled, and in consequence antisyphilitic treatment was intensified. Thus a superimposed arsenical polyneuritis reached really serious proportions. The greatest difficulty in diagnosis, however, arises in cases that really justify use of the term "pseudotabes diabetica." The resemblance to tabes may be very close; however, the diabetes, the absence of serologic evidence of syphilis and the finding of normally tender muscles, incongruous to the picture of true tabes dorsalis, lead to the decision that the condition is diabetic neuropathy. It must be admitted that there may be cases of true tabes with glycosuria and negative evidence on serologic examination.

Dementia paralytica and tabes are sometimes concurrent, the condition then being described as taboparesis.

Tabes and paresis, usually in conjunction, may follow congenitally acquired syphilis but differ relatively little from their expression in adults. The juvenile variant usually begins between the ages of nine and sixteen years. As would be expected, the juvenile taboparetic usually presents a simpler deteriorating deficiency, and the stigmas of congenital syphilis, such as keratitis and Hutchinson's teeth, create a classic picture.

Examination of the spinal fluid in tabes usually shows some increase in the lymphocytes; the serologic reactions for syphilis in blood and cerebrospinal fluid are usually positive and the gold sol reaction abnormal, usually with precipitation in the second zone.

Vascular Neurosyphilis

Large and small blood vessels, and particularly the arteries of the brain, may undergo perivascular cuffing, intimal changes and closures with results dependent on the part of the brain damaged by the affected vessel. The onset is usually stroke-like and there may be hemiplegia, aphasia, hemianopsia, bulbar symptoms, stupor and convulsions. The spinal cord, too, may become infarcted, with resulting paraplegia and incontinence, Brown-Séquard syndrome, syndrome of the anterior spinal artery, spastic paraplegia and an asymmetric variety of poliomyelitis. Closure of the veins likewise may occur and lead to myelomalacia. Associated with these vascular insults there is usually meningeal involvement as well.

There is no neurologic ensemble caused by disease of blood vessels that is pathognomonic of syphilis. A syphilitic etiology must be established from the content of the history and from other clinical and serologic evidence of syphilis.

Meningeal Neurosyphilis

Once the spirochete has entered the body, it spreads with great rapidity. It may be found in the lymph nodes before the chancre is visible, and presently it appears in the blood stream as well. In about one-third of the cases, its entrance into the central nervous system is reflected first by an increase in the number of cells in the spinal fluid, then by positivity of the serologic reaction in syphilis, increase in protein and alteration of colloidal solutions. The cells encountered in the spinal fluid may include small lymphocytes, large lymphocytes, plasma cells and neutrophils. When invasion of the nervous system occurs, it usually has taken place by the end of the third year. As time goes on, invasion becomes less and less likely, and the possibility of development of neurosyphilis diminishes correspondingly. In general, it may be said that if the reaction of the spinal fluid does not become positive during the first three years of the disease, it will continue negative, which in turn indicates that neurosyphilis neither is present nor will occur. It also has been learned that the more severe the reaction and the longer its duration, the worse is the prognosis. Thus far these changes in the spinal fluid need not be accompanied by symptoms, a situation classified as asymptomatic neurosyphilis. In about one-third of these cases, however, symptoms do develop, and then we speak of symptomatic neurosyphilis.

Involvement of the nervous system is marked by edema, cellular infiltration, particularly lymphocytic, increase in connective tissue and the formation of granulomas, or gummas. These changes follow the various fissures of the central nervous system, invade the brain, cord and nerves and cause symptoms and signs in profusion that come and go. None of the nerves arising from the brain or cord is immune to involvement. Fever is rare but it may occur, and the signs are sometimes those of an acute meningitis. More often the course is chronic. Headache is very common.

There may be choking of the disks but even so, a spinal puncture must be ventured to decide the issue. Involvement of the ependyma may close the aqueduct and lead to hydrocephalus. The dura mater may become enormously thickened, may then constrict both nerves and cord, most commonly, but not always, in the cervical region. Such a hypertrophic pachymeningitis then results in pain, sensory-motor paralysis of the upper extremities and a spastic paraplegia of the lower extremities. Spinal puncture usually reveals obstruction of the subarachnoid pathways. Gummas, though now rarely large, may form at any place and produce the picture of a tumor of the cord or of the brain. It is needless to say that a disease possessed of such vagaries in space and time may simulate almost any organic disease of the nervous system. Perhaps the most serious mistake that can be made, and made very easily, is to overlook the fact that a psychoneurosis, too, may be simulated. Also, it must not be forgotten that the serologic tests may give negative results and that the disease may progress in spite of treatment.

We must not leave the impression that the grand headings, "dementia paralytica," "tabes dorsalis" and "meningovascular neurosyphilis" are crystalline entities. In each the picture may be incomplete or atypical, and parts of all may be interwoven.

In 1851, Romberg exclaimed regarding the treatment of tabes, "There is no prospect of recovery of patients of this class; the fatal issue is unavoidable; the only consolation that can be offered to those fond of existence is the long continuance of the disease. It is but common humanity to inform him at once that therapeutic interference can only injure, and that nothing but the regulation of his diet can retard the calamitous issue." This was a grave pronouncement and, in a large measure, it would still apply, were it not for the effective treatment now available and the fact that early diagnosis is the rule.

Treatment

The treatment of neurosyphilis depends on three factors: (1) type of neurosyphilis encountered, (2) degree of activity of the cerebrospinal fluid and (3) general condition of the patient. All three factors must be evaluated together before a decision is made as to the treatment which will be most beneficial to the patient. As a rule, the general condition of the patient determines whether he should be inoculated with malaria or whether hyperpyrexia should be induced otherwise, and whether or not penicillin should be administered alone or in conjunction with the fever therapy. For instance, a patient with severe diabetes, hypertensive heart disease or cirrhosis of the liver should not be given fever therapy no matter how active may be the cerebrospinal fluid or how severe the clinical manifestations of his neurosyphilis.

Classification of Neurosyphilis.—Neurosyphilis may be of the following classes:

Asymptomatic
Meningeal
Meningovascular
Vascular
Tabes dorsalis with or without optic atrophy
Dementia paralytica with tabes dorsalis (taboparesis)
Dementia paralytica (paresis)

Special types:

Gumma of spinal cord or brain
Amyotrophic lateral sclerosis
Erb's spinal spastic paralysis
Epilepsy
Transverse myelitic syndromes (usually due to vascular occlusion or gumma)
Nerve deafness
Optic atrophy without tabes dorsalis, primary or secondary to neuroretinitis

In practically all instances a diagnosis of neurosyphilis must be confirmed by an examination of the cerebrospinal fluid, and in all patients with a persistently positive serologic reaction for syphilis or a history of syphilis, the cerebrospinal fluid should be examined for neurosyphilis.

Characteristics of active spinal fluids are summarized in Table I.

An arrested or inactive type of cerebrospinal fluid is characterized by a normal cell count and a normal protein value, but there may be degrees of positivity of the complement-fixation reaction and the colloidal gold test may show persistent reactions of the first or middle zone.

Penicillin.—Whether penicillin is to be administered alone or in conjunction with fever therapy, the total dose in one course of treatment should not be less than 6,000,000 Oxford units. In order to avoid a serious Herxheimer reaction, as may be expected in cases of general paresis, optic atrophy or gumma of the spinal cord or brain, the first twenty-four injections of penicillin should

be of 5,000 Oxford units each administered every three hours, followed by injections of 50,000 to 60,000 units every three hours until the total amount desired has been given. Penicillin is used preferably in the form of procaine penicillin, 300,000 units being given once or twice daily until the total dose of 6,000,000 units has been administered in instances in which Herxheimer effects are not anticipated. Other types of penicillin are used as well. Aqueous solutions of penicillin were given formerly in doses of 50,000 units every three hours for 120 injections or in doses of 60,000 units every three hours for 100 injections. Calcium penicillin in peanut oil and beeswax is also used but is being replaced by procaine penicillin. Other types of penicillin are on the way; however, there is not sufficient information to know their efficacy as yet. If penicillin is to be administered in conjunction with fever therapy, its administration should be started at the time fever begins unless a Herxheimer reaction is expected, when administration of penicillin should be started six to seven days in advance of the febrile period. Penicillin alone will reverse to normal or near normal spinal fluids of which the cell count is high. In the presence of clinical signs and symptoms, when a trial with penicillin fails to produce clinical improvement, fever therapy should be considered.

TABLE I. CHARACTERISTICS OF THE CEREBROSPINAL FLUID WHEN SYPHILIS IS ACTIVE

Group	Leukocytes per cubic millimeter	Total Protein, mg. per 100 c.c.	Complement Fixation	Colloidal Gold
I	6 or more	Normal or elevated	Negative	0000000000 to 3221000000
II	6 to 150 or more lymphocytes	Elevated to 120	Positive with 0.5 to 1.0 c.c. of fluid but not with smaller amounts	Any type, 0012321000 to 3221000000
III	50 to 200 lymphocytes, 0 to 25 polymorphonuclear cells	Elevated to 200	Positive with weak dilutions	5554310000

Fever Therapy.—Fever can be induced mechanically (Kettering hypertherm), by inoculation with malaria (Plasmodium vivax, Plasmodium malariae) or by intravenous injection of typhoid vaccine. In cases of neurosyphilis, either mechanically induced fever or malariotherapy is suggested, but treatments should be given by those especially trained in the use of these agents.

The best results are obtained if a fever of more than 103°F. (oral temperature) is allowed for fifty or more hours. These hours of fever are obtained most often after the patient has had eight to ten paroxysms of malarial fever.

It is imperative that patients who receive fever therapy be observed closely for the development of complications. If there are signs of cardiovascular collapse, manifested by persistent hypotension (systolic pressure less than 90 mm. of mercury) and persistent tachycardia, pulmonary edema and myocardial failure, fever therapy should be discontinued permanently. Malaria fever therapy produces some hepatic damage in practically all cases, but such damage is usually not of serious significance. If the icteric index rises steadily and jaundice is present, the treatment should be discontinued permanently. Moderate degrees of anemia are common, especially in cases in which the patient has malaria; if severe anemia (hemoglobin value less than 7.0 gm. per 100 c.c. and an erythrocyte count less than 2,500,000 per cubic millimeter of blood) is present, permanent discontinuance of fever therapy is necessary. Other complications, such as nephritis, pneumonia, manic states and cerebrovascular accidents, are uncommon but also necessitate discontinuance of fever treatment. Many patients become physically tired, weak and "washed out" with malarial therapy, and these individuals may obtain temporary remission of fever from administration of 75 to 150 mg. of thio-bismol (sodium bismuth thioglycolate). For permanent termination of malaria, atabrine (quinacrine hydrochloride) or chloroquine (7-chloro-4 4-diethylamino-1-methylbutylamino quinoline diphosphate) is administered.

The first evidence of improvement in the cerebrospinal fluid after treatment with either penicillin or fever is lowering of the abnormal cell count. This is followed shortly by decreasing values for protein. Abnormal complement-fixation and colloidal gold reactions may persist for months and years.

Specific Types of Neurosyphilis.—Suggestions for treatment of specific types of neurosyphilis, to be considered only as a guide at the start of treatment, are included in Table II. There are exceptions in every class of neurosyphilis. The cerebrospinal fluids of patients who have vascular neurosyphilis or gummas which involve the spinal cord and brain frequently are normal, and thus the status of the cerebrospinal fluid cannot be used as a guide to treatment. The greatest exceptions to the suggested treatments occur in the unusual instances of neurosyphilis in which the disease is clinically progressive and the cerebrospinal fluid is normal or nearly normal. In these cases penicillin should be administered and fever should be induced concurrently; however, the results of such treatment or of any treatment are generally poor.

Patients with an arrested or inactive type of spinal fluid should also receive special consideration. They are usually tabetic patients who may or may not have received previous treatment. It is doubtful that further treatment will improve the status of the cerebrospinal fluid, but a course of penicillin often will result in an increased sense of well-being and a gain in weight, together with a decrease in severity and frequency of gastric crises and lightning pains. The tonic effect of penicillin seems to be noted in most cases of neurosyphilis, regardless of the type.

TABLE II. SUMMARY OF TREATMENT OF SYPHILIS IN RELATION TO DIAGNOSIS AND CONDITION OF SPINAL FLUID

Diagnosis	Cerebrospinal fluid, group	Penicillin, units	Fever
A. Asymptomatic	I and II	6,000,000	No
	III	6,000,000	Yes
B. Meningeal	I, II and III	6,000,000	No
C. Meningovascular	I and II	6,000,000	No
	III	6,000,000	Yes
D. Vascular	Frequently negative	6,000,000	No
E. Tabes dorsalis (without optic atrophy)	I and II	6,000,000	No
	III	6,000,000	Yes
F. Tabes dorsalis (with optic atrophy)	I, II and III	6,000,000 to 9,000,000	Yes
G. Dementia paralytica with tabes dorsalis (taboparesis)	I and II	6,000,000 to 9,000,000	No
	III	6,000,000 to 9,000,000	Yes
H. Dementia paralytica (paresis)	I and II	6,000,000 to 9,000,000	Yes
	III	6,000,000 to 9,000,000	Yes
I. 1. Gumma	Frequently negative	6,000,000	No
2. Amyotrophic lateral sclerosis	I, II and III	6,000,000 to 9,000,000	No
3. Erb's paralysis	I, II and III	6,000,000 to 9,000,000	Yes
4. Epilepsy	I, II and III	6,000,000	No
5. Transverse myelitis	(See C, D and I, 1)		
6. Nerve deafness	(See C, D and I, 1)		
7. Optic atrophy	I, II and III	6,000,000 to 9,000,000	Yes

Observation and Further Treatment

The patients should be re-examined four to six months after the end of treatment with penicillin alone or with penicillin in combination with fever therapy. Such an examination should include the serologic tests for syphilis, re-examination of the cerebrospinal fluid and physical examination to determine the patient's neurologic and general status.

In cases in which the condition has responded favorably to treatment, the following effects are evident: the tonic effect of penicillin already noted, together with steady diminution of the more specific symptoms such as gastric crises, lightning pains, convulsions and mental aberrations. The spinal fluid exhibits improvement chiefly in regard to the cell count and the values for protein. The complement-fixation reaction and the abnormal curve of the colloidal gold test do not indicate response as soon as do the manifestations just mentioned. These latter two tests ordinarily are not considered to be valuable signs for or against the need of further treatment.

If there has been a satisfactory clinical response and if the cell count and the value for protein have become or have approached normal, no further treatment need be given at the time. The patient should then be re-examined at intervals of six months for the next two years and yearly there-

after. If the cerebrospinal fluid has been normal or has exhibited the arrested type of formula for two years after treatment, further examinations of the cerebrospinal fluid need not be made unless there is a clinical or serologic relapse.

In cases in which response to treatment has been unfavorable (1) there is no clinical improvement in the symptoms in which improvement should be found, (2) the symptoms are of increased severity or (3) in the instance of asymptomatic neurosyphilis, evidence of symptomatic neurosyphilis develops. The cerebrospinal fluid exhibits the same cell count and concentration of protein as it did before treatment, the values are increased or there is slight but insignificant diminution of cell count and concentration of protein. The lack of beneficial response to treatment may be shown either in the clinical symptomatology or the cerebrospinal fluid or both. If response to treatment is unfavorable, the treatment should be repeated.

Further Treatment.—For those patients originally treated with penicillin alone, another course of penicillin combined with induced fever should be given if the general condition of the patient permits use of hyperpyrexia. If the patient originally had treatment with fever and penicillin combined, subsequent therapy is ordinarily limited to further courses of penicillin. In exceptional instances more fever therapy can be given.

Patients who respond unfavorably should be investigated at intervals of four to six months, and treatment should be continued as long as clinical symptoms progress and the cerebrospinal fluid remains active, as shown by elevated cell counts and abnormal values for potein.

Summary and Conclusions

The diagnosis of neurosyphilis has been discussed with consideration of the broad clinical types of neurosyphilitic involvement. Some of the interesting historical descriptions and impressions of the early authorities are quoted.

The importance of correlating (1) the type of neurosyphilis, (2) the activity of the cerebrospinal fluid and (3) the general condition of the patient before determining therapy is stressed.

A table suggesting therapeutic procedures with penicillin alone or penicillin combined with fever is given, but this should be used only as a basic guide for the therapeutic requirements of an individual patient.

BIRTHS REMAIN HIGH IN 1948

The second largest number of births in the history of this country occurred during 1948. This information, released by Federal Security Administrator, Oscar R. Ewing, summarized data prepared by the National Office of Vital Statistics of the Public Health Service.

The number of live births registered during 1948 was estimated at 3,559,000 or only about 4 per cent below the all-time high of 3,699,940 for 1947. Of even greater significance are the figures which take into consideration the unregistered births. The total number of births (registered and unregistered combined) was estimated at 3,715,000 for 1948 and 3,876,000 for 1947. Only eight years earlier, in 1940, the last pre-war year, the figure was little more than 2½ million (2,558,000).

The 1948 estimated birth rate of 24.4 per 1,000 population was about 5 per cent below the final rate of 25.8 for 1947, but exceeded the 1946 rate (23.3) by almost 5 per cent. (These rates and all other figures which follow are based on registered births.)

Striking changes occurred in the birth rate during the postwar period 1946-48. Demobilization beginning in the last half of 1945 was reflected by extraordinarily high birth rates in the latter part of 1946. In 1947 the monthly rate declined from the peak rates experienced at the end of 1946 but was nevertheless at a high level throughout the year. The rates in the last half of 1948 were significantly higher than in the earlier months and about equalled the rates in the last half of 1947. When the monthly rates are corrected for "normal" seasonal variation, the rate changes during this period are further clarified.

Final 1947 birth rates on a residence basis are now available for each State and the District of Columbia. The State rates ranged from a high of 37.2 (per 1,000 population present in area) for New Mexico to a low of 22.8 for New York. The birth rate for half of the States and the District of Columbia fell within the range 25.0 to 30.0. The rates for fourteen States were below 25.0, while in ten States they exceeded 30.0.

The proportionate changes in the birth rates for each State between the last pre-war year, 1940, and 1947 show that fifteen States had increases of 50 per cent or more; fifteen increases of between 40 and 50 per cent; fourteen between 30 and 40 per cent; and four between 20 and 30 per cent. Greater proportionate increases were recorded in those areas which for many years have consistently had comparatively low birth rates.

DO WE KNOW WHERE WE'RE GOING?

E. H. O'CONNOR
Managing Director, Economics Society of America
Chicago, Illinois

BETWEEN the great things we cannot do and the small things we will not do the danger is that we shall do nothing.

On that premise I appear before you today in a sincere effort to arouse you to action, to urge you to recognize and understand the problem of progressive socialism which, if permitted to continue unabated, will eventually destroy our voluntary society and our free market economy.

Whether you realize it or not we are fast approaching socialization by taxation. We are just ten years behind England on the schedule planned by the designers of confusion who are bent on destroying the competition of private ownership. We have all been very smug and complacent. We have taken our freedom for granted. We have washed our hands of so-called "dirty politics." We have buried our heads in the sand while a small minority in our midst has been steadily undermining the foundations of our freedom for half a century. This blindness obscures the mind and causes the average business and professional man to be less perceptive and alert. The man who no longer grows in bone and muscle builds a fatty insulation not only around his middle but around his head. He is thickened against the acquisition of ideas, and the abstract principles over which the founders of the country labored and which must be understood for each to do his part to preserve liberty throughout the land.

Such, I believe, is the great issue of our time and this issue can be met if courageous men and women will now uphold private enterprise against collectivism in Federal, State, and local governments. Let us restore the American incentives to work, to "have and to hold"—the old rewards for producing more and better goods. Let us put a stop to the government's use of the money of taxpayers to compete against them—yes and above all—stop politicians buying votes with "Federal Aid" for such measures as governmental protection from the cradle to grave and socialized medicine.

The fabulous prosperity that has persisted throughout the country during the postwar era is beginning to produce a brand of economic thinking that America could very well do without. Fat pay envelopes and employment on a scale recently considered to be fabulous appear to be taking on the properties of an opiate that obscures facts and deadens the power of reason.

A feeling of exuberance and rose-tinted optimism is gaining headway and with it the adoption of policies and doctrines as nebulous as the illusions that produced them. Therefore, it is time to take stock in order to build a structure that will stand up under more stringent conditions.

A case in point is provided by the attitude of some federal payrollers and legislators toward a more comprehensive program of social security—a plan of government guardianship for everyone from the cradle to the grave. It seems we have an unlimited supply of reformers, humanitarians and would-be-managers-in-general who have a common notion that one has a duty to society, as a special and separate thing, and that this duty consists in considering and deciding what is good for other people. In their zeal they overlook the long history of man's struggle for freedom which clearly indicates that a part of the price he must pay for it is the willingness to assume a large measure of responsibility for his own well-being. Whenever men have endeavored to transfer their responsibilities to the shoulders of other fallible men calling themselves government, they have eventually reared a Frankenstein monster that has turned and devoured their political, intellectual and spiritual liberty. This earth was never intended to be a full and complete Utopia. The good Lord just didn't plan it that way. Didn't he say "Thou shalt earn thy bread by the sweat of thy brow?" That was not a primeval curse but a law of progress and any legislative scheme which trys to turn this law inside out will doom all to destruction. As we look back in our own history we recognize that struggle makes strength and no person's security can exceed his individual self-reliance.

Neither the insurance industry, the medical profession nor business in general have been sufficiently alert to the dangers of comprehensive national social insurance. The legislative and administrative history of social insurance throughout the world shows clearly that it is impossible to

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Address given before the Ramsey County Medical Society, the Hennepin County Medical Society and other interested groups at joint meetings held in Saint Paul, December 6, and Minneapolis, December 7, 1948.

Mimeographed copies of this address may be obtained upon request through the office of MINNESOTA MEDICINE.

accept one part of social insurance without ultimately falling prey to the whole scheme; that social insurance insidiously pervades the entire body politic like a cancer, and that benefits bestowed as social insurance rights are purchased by surrendering human rights. In other countries legislation for national social insurance has always meant subjugation of the individual to the Government.

When Bismarck instituted the payroll tax and compulsory insurance, Prof. Adolph Wagner, his economic advisor, said "the plan was to raise revenue, control the people, and redistribute income." The state was to take over control of banking, insurance, communications and utilities. The workers were to be induced to agree to compulsory taxation and bureaucratic control in return for small social insurance benefits. In other words, the state bought the workers with small bribes and seized control.

Bismarck's "social" insurance laws were acclaimed as the "high water mark of German State Socialism" sixty years ago, but they were laws embracing political and economic devices, rather than genuine social measures. The point has been well made that social insurance is neither social nor insurance.

Unfortunately, at the present time, there are many persons—sound citizens, trusted members of the community—who believe that a "little social security" like a "little inflation" is good for the country. But the question arises whether one can take a "little social security" without desiring larger amounts. The trouble with social security is that small doses develop an insatiable craving for larger doses. No social security program, however undesirable, has failed to expand, and in its expansion it penetrates the entire economy ever more deeply. The triple curse of social security is the spiral of political promises, the weight of bureaucratic conflict, and the crushing burden of taxation.

I believe I can make the statement, without fear of contradiction, that a large segment of our people have been fast asleep and completely unaware of the octupus-like movement of government compulsory insurance both at the state and federal levels. We bury our heads in our daily tasks and leave our tail feathers exposed to the skirting gales of political controversy. We all have a great deal at stake in the movement to expand our social security act. Not only should our interests be motivated with the desire to keep and maintain our business free of further governmental interference, but greater than that we must be ever alert to preserve the principles of our competitive voluntary enterprise system, which the so-called "intellectual" in his supreme conceit would destroy.

It is of the greatest importance to realize at this time that every effort is going to be made to do three things in the Social Security field, namely: (1) expand Social Security coverage for old-age and survivors' insurance to cover presently excluded groups and at the same time to increase the taxes and raise the taxable wage level from $3,000 to $4,800; (2) introduce, and if possible, enact legislation for federal cash sickness benefits under a Federal-State arrangement comparable to the arrangement now existing in connection with employment programs; and (3) introduce, and if possible, enact legislation for cash disability benefits to be administered by the Federal Government as a part of the Old-age and Survivors' Program.

The strategy of the Federal Government and of non-federal advisors is to extend the coverage to all or nearly all the population in a field which is considered non-controversial, namely, old-age and survivors' insurance. The effect of this extension of coverage has powerful repercussions when you come to later programs for additional benefits. It means that such benefits will then automatically apply to the population which has already been brought under the Social Security umbrella. Few persons see that once you accept the principle that governments, either Federal or State, have the primary responsibility to provide support for individuals who are out of the labor market, either permanently because of old age or temporarily because of unemployment, you will ultimately be compelled to accept all the major Social Security programs. Thus, logically, you will be compelled to accept the cash sickness benefits program because unemployment due to sickness is akin to unemployment due to lack of a job. Similarily, unemployment due to permanent disability is akin to unemployment due to old age; and, consequently, that risk must be covered by the Government. But once you have set up Government insurance programs to pay cash benefits during periods of temporary sickness or of permanent disability and once you have set up trust funds for those programs, you will

inevitably be driven to accept a Government medical care program not so much for the benefit of the sick and disabled as to protect the respective cash benefits insurance funds. It will be argued that the majority of workers are not able to pay for doctors when they are sick and that, consequently, they will be out of work longer than will be necessary and will be drawing sickness benefits. It will also be argued that many persons who will leave the labor market on the ground that they are permanently disabled and will, therefore, draw cash benefits as long as they live, might be restored to a certain degree of earning capacity if only the Government would provide the medical care they need. If that unhappy day ever arrives, a goodly proportion of the physicians of this country will devote their entire time, not to improving the health of the people, nor caring for the sick, but simply carrying out the social insurance task of certifying patients for cash benefits during sickness and permanent disability.

The adoption of a national system of sickness insurance would involve the extension of federal control into the lives of nearly every American in a measure unprecedented in the history of the nation. It would extract taxes from every pocketbook, and of necessity swell the proposed health, education, and security department into one of the biggest and most powerful government departments the country has ever known. In short, it would be straight state socialism with ultimate power over all the people vested in the Federal Government.

President Truman has never presented a budget to the American people on the costs of his social security proposals yet his program would add billions to the cost of social insurance. Sweeping increases in benefit payments, the extension of coverage to upwards of 20,000,000 additional persons and the inauguration of new types of social insurance are provided in the President's program. To finance this wholesale expansion of social security an immediate sharp increase in Federal payroll taxes and eventual higher state unemployment insurance levies will be required. What the social security proposals mean to business is illustrated by the proposed changes in the Federal payroll tax for pensions. The tax rate would be raised from 1 to 1½ per cent and the impost would be made to apply to $4,800 instead of $3,000 of earnings. For the average employer, this would mean an increase of 60 to 70 per cent in Federal payroll taxes. At the same time, extension of coverage would make numerous additional employers subject to the tax. Business is on the eve of a period of intensified competition and narrowing profit margins. A jump in social security taxes may seem bearable at the moment, but when profits decline they will become a grievous burden.

The far-reaching consequences of social security are well illustrated by its impact upon savings and investment. The federal trust funds are now collecting $2½ billion more than they pay out in benefits. This vast sum is 25 per cent of the annual liquid savings of the people as estimated by the Securities and Exchange Commission. This large segment of the nation's savings is not available for investment in private enterprise. It must be placed in Government securities. Do we want to divert the larger part of the liquid savings of the American people into Government funds that can only buy Treasury Securities? This is one of the many related questions to which Congress has given little consideration. It is one of the more powerful reasons for further unbiased study, and at least obtaining the opinion of the American people before Congress is asked to vote upon the President's proposals for a sweeping expansion of the social security program.

Lincoln is quoted as saying "The legitimate object of government is to do for a community of people whatever they need to have done but cannot do at all or cannot do so well for themselves in their separate and individual capacities. In all that the people can individually do as well for themselves the government ought not to interfere." Let us see what the people of this Country have done in protecting themselves against the important hazards of life.

According to a recent study, life insurance protection in force in private companies now exceeds $200 billion, covering more than 75,000,000 policyowners with total assets of over $52 billion. According to the Health and Accident Underwriters Conference more than 45 million persons were covered under some form of accident and sickness insurance at the end of 1947 with a total annual premium volume of over $800 million. To this may be added many more millions for hospitalization coverage through Blue Cross and protection by prepayment medical plans.

Roughly if we start with the basis of pro-

tection built up over a period of more than one hundred years by private insurance companies and organizations and add to this the savings established through savings banks, savings and loan associations, real estate, investments and by the purchase of war bonds we can total up resources committed to the protection of our people, amounting to over three hundred billion dollars, which, I submit to you, is an amazing figure. Of greater significance is the unhampered opportunities which made it possible to accumulate so large a reserve. Any tampering with these opportunities may have fateful consequences. It would probably be difficult to retain thrift, ambition, and industry under a comprehensive system of compulsion such as social security. It is difficult, therefore, to see how it can be argued that present facilities and opportunities are so inadequate as to call for an entirely new system having economic and political implications which can destroy America as a land of freedom and opportunity.

The advocates for government compulsory sickness compensation and medical care are subjecting the public to a barrage of twisted facts which distort the situation. They argue that the statistical sample examined by the draft boards in the last war was representative of the country's young adult male population. That is not true as was proven by Dr. Maurice Friedman in his testimony before the Senate Subcommittee on Health. In the first two years of the war, the draft boards examined about ten million men and rejected 36 per cent of them. But during the same period, over two and one-half million enlisted voluntarily. If these men had gone through Selective Service, the over-all rejection rate would have dropped automatically from 36 to 28 per cent.

Then of the manpower that remained after voluntary enlistments, more than one-third received deferments because of essential occupation or dependency. In other words, Selective Service examinations were limited to those young adult males who did not volunteer and who did not rate deferments. That's scarcely a true cross-section.

In breaking down the "why" of draft rejections we find that 22 per cent of the conditions were beyond the province of the medical profession—illiteracy and mental deficiencies; 47 per cent of the conditions were not preventable or remediable—heart ailments, defective vision, amputations; 3 per cent were possibly preventable such as tuberculosis; 11 per cent were not preventable but correctible—tonsils, kidney stones, varicose veins, hernias; 5 per cent of the conditions were preventable and correctible—otitis media, teeth, hearing. From this breakdown it is apparent only about 19 per cent of draft rejections could have been influenced by medical care and then we must assume that the individual would have sought medical attention, that he would have accepted the doctor's recommendations, and that the treatment would have been 100 per cent effective in every instance. Any statement that one-half to two-thirds of such defects are preventable or remediable is utterly false and further it proves that selective service statistics have no place whatsoever in any honest discussion of the deficiencies existing in our medical services or the need for compulsory government sickness compensation.

Now the same individuals are emitting loud wails over the dire implications of the present draft rejections. The figures show that in the nation's ten largest cities, rejection of young men called up for pre-induction examination has run, on the average, at 62 per cent. The rate ranged from a high of 87.5 per cent in New York to a low of 37 per cent in Los Angeles. In Chicago, the nation's second largest city, it was 85 per cent. Although Selective Service Director Lewis B. Hershey put no such interpretation upon them, these figures were immediately seized upon by the national health insurance crowd as evidence that our human resources were in terrible shape.

Actually, of course, the rejection data do not prove anything of the sort. The men called up during the first few weeks of the draft were in the twenty-four to twenty-five year-old groups. Veterans are exempt from the new call, so that those examined were largely those who were rejected for service in World War II on physical or mental grounds or because they were engaged in essential work. Among them were large numbers of 4F's who would be accepted now only if they had overcome the handicaps which brought about previous rejection. Director Hershey says the results are just about what draft officials expected.

I think you will agree that the basis on which military rejections are made does not suggest that we are rapidly going to pot physically and

mentally. As any actuary will tell you, quite the reverse is true: the average age of the population is increasing rapidly—so rapidly in fact that it will soon be a social security problem all by itself. Recently the Federal Security Agency experts took a look at death rates in this country and came up with data showing life expectancy today to be greater by about twenty-four months than it was a brief seven years ago. The average American born in 1948 can expect to be here in 2015, regardless of sex or race. Yet while improved medical care is prolonging life the birth rate has declined. At the turn of the century only about 3 million Americans were sixty-five or older. By 1940, their number had increased to 9 million. When 1960 rolls around citizens in the sixty-five or over group will number 14,000,000; at the century's end the figure is expected to be 21,500,000 or more. If the F.S.A. figures on longevity and births are reasonably reliable, a security system that would provide even more subsistence for 21,500,000 men and women over sixty-five would be an intolerable burden for the steadily decreasing number of employable citizens who would have to be taxed to support not only social security but all other government activity. It might be exercising good judgment to permit the aged to continue working to age seventy instead of planning for social security pensions at sixty-five or sixty, in view of our steadily increasing rate of life expectancy which is now sixty-seven years.

Now let us review a few pages of history: Bismarck, the Iron Chancellor, introduced compulsory social security in Germany, not as a social measure, but as a means by which he sought to stem the rising power of the labor party and to retain power in conservative hands. He made the state responsible for the industrial masses, protecting them against fear and want. The only price the masses seemingly had to pay was to protect the Hohenzollern dynasty against the liberal opposition, by voting the funds for a strong central government. With the introduction of State socialism, German liberalism was finished. The Government gave "benefits" to labor, industry, farming, banks. Liberal arguments could not defeat these vested interests.

In 1911, Britain adopted the German system of old-age and sickness insurance. By 1924, Britain was taking the lead in socialization, "insuring" workers against unemployment before the German Republic did. Lloyd George had transformed the Liberal Party into a middle-class Socialist Party. It was, of course, the end of the liberals. The Labor Party could promise more. As the English turned to the philosophy of statism, made glamorous by Prussian professors and generals, as government bureaus and cartels and other vested interests grew, the English lost their independence to the State.

In the last sixteen years, we too have seen business, education, labor and local government in this country become accustomed to gifts from the Federal Government. Our danger is not from a dramatic abandonment of liberalism, but from a leaking away of principles, a little compromise, with this spending program and with that, until today both political parties are as completely enmeshed in its commitments to mass supporters as were ever the New Dealers.

There are some people who quibble over calling compulsory sickness insurance "socialized medicine"; some who claim that a little socialism won't hurt. Call it what you will, but you can't be a little bit socialistic any more than you can be a little bit pregnant. Either you are or you aren't. Compulsory sickness insurance can lead to only one result: socialization of medicine and eventual socialization of all fields of endeavor. Mr. Justice Brandies who in his day was considered an extremely liberal thinker said "experience should teach us to be most on our guard to protect liberty when the government's purposes are beneficient."

Here it might be well to give some consideration to the cost of a comprehensive system of social security. We know from experience with foreign systems that the costs always exceed original estimates. Taxes rise. In Germany, we find that the financial cost of social insurance increased more than one-hundred times over a period of less than fifty years; in Great Britain more than seventy times in less than forty years; in Canada more than twelve times in a little over twenty-five years; in New Zealand it doubled over a short period of ten years.

In our own country we find that the ultimate cost of a comprehensive system of social security by compulsion would be so great that it might require each gainfully employed person to work ten weeks at forty hours each—a total of four hundred hours a year, or more than 25 per cent of an annual work year—just to pay for social security. The ultimate cost of the new British system has been estimated at 24 per cent of gross

wages. This will give you an idea of the importance of the financial cost of social security. Without exaggeration it may be stated that no system of social security in any country has ever remained as small or as isolated as contemplated originally. Invariably, it has become a snowball making for greater cost, higher rates, wider coverage.

Labor's major interest in social security and governmental welfare programs dates back to the Wagner Act of 1935 which gave tremendous impetus to union organization. Members flocked to join. Gradually, the unionization process became more difficult, especially as unions worked deeper into the mass production industries. It became necessary to stage hard-fought organizational campaigns. These met not only with employer opposition, but also with worker inertia. New programs had to be devised, new goals set forth. Union leaders began to turn to government social security and medical care programs. They call for a broadening of social security coverage to encompass virtually all employes in the country, for new types of benefits, and for increased benefits. Together with the union drive to attain greater benefits from private employers, these demands foreshadow a future development in labor thinking which will seek to tie in such private program directly with federal security laws.

In Germany, labor thought it could control its social program and ended up by being controlled by ruthless dictatorship. In Russia, labor thought it could control its own destiny and ended up in a monopolistic economy. In New Zealand, the predominance of labor resulted in a socialistic form of government and economy. In Great Britain, labor which is chiefly responsible for the social security program, may feel again that it will be able to retain political control. And again, if history repeats itself, as it so often does, labor may see its ends defeated by the trend toward a monopolistic form of government. What seems to be overlooked by labor in this country is that when these social security programs cover the entire population, everyone will be up to his neck in compulsion and taxes. Once completely under Government control, labor will go the way of labor in other countries.

Many persons had high hopes for what might be accomplished by this program of social security. Few foresaw the advent of a vast Federal bureaucracy that sprang up almost overnight and subsequently turned into a powerful pressure group, demanding expansion of the program, higher taxes and more power. Do we want more forms, more regulations, more reports and more taxes?

To the businessman I urge you to analyze the whole social security program and ask yourself if you want any more of it. To the doctors and dentists I say "If you cannot see that there is a three alarm fire in your professional abode at the present time, you are likely to find yourself out in the cold staring at the ashes of what was once a beautiful practice and a free existence."

In closing I will read a statement made last year at Bogota, Chile, by a member of our State Department, Dr. Charles G. Fenwick, who registered a strong protest against the principles which had been proposed in the form of an inter-American Charter of Social Guarantees. He said:

"What is needed today is a clarification of the objectives which we have in view in legislating for the protection of the workers. *The tendency of the present day is to make man a mere cog in the great machine of the state. In order to obtain security he must surrender liberty. In order to get protection against the industrial machine, which destroys his human personality, the worker must have recourse to the state; and the state then tends to become his master, substituting one form of slavery for another.* I could wish that the Charter might reaffirm the ideal of a free man, working under free conditions, paid a just wage which would enable him to support his family and to own his own home under conditions of dignity and security. *The liberty of the individual is being lost in the huge size of labor unions, in the dictatorship of industrial combinations, and in the all-comprehensive legislative authority of the state.* Our problem it seems to me, is to formulate a philosophy of social relations, to show the world how the security of the worker can be obtained without loss of his liberty."

VACANCIES IN MEDICAL SERVICE CORPS

The Army Medical Service Corps still has a number of vacancies in the grades of 2nd and 1st lieutenants in the following specialties: bacteriology, biochemistry, parasitology, serology, entomology, nutrition, toxicology, industrial hygiene, industrial hygiene engineer, optometry, psychiatric social worker, clinical psychology and sanitary engineer, under the provisions of Department of Army Circular 210 dated July 14, 1948.

Although most of the provisions of Circular 210 were suspended as of February 15, 1949, pending completion by the Department of the Army of a study of remaining requirements, applications for reserve commissions in most grades are still being accepted by the Medical, Dental, Veterinary, Nurse, and Women's Medical Specialist Corps, as well as by the Medical Service Corps for appointment in the grades of 2nd and 1st lieutenants.

BENIGN STRICTURES OF THE BILIARY PASSAGES

LAWRENCE M. LARSON, M.D., Ph.D. (Surg.) and JOHN H. ROSENOW, M.D., M.S. (Surg.)
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BENIGN strictures of the biliary tract constitute a very serious problem in the field of surgery. The patient suffers from a chronic and most distressing ailment which with the best of treatment carries a disturbingly high morbidity and mortality. Too, this is a condition in which bacteria, viruses, constitutional tendencies, inner conflicts, or acts of God play very little of an etiological role of primary significance. Here the hand of man, the surgeon, in fact, is usually causative, which renders this problem of first importance to all who undertake surgery of the gall bladder and bile ducts. It is the purpose of this presentation to discuss briefly the causes and prevention of such strictures, along with a few words about the general disease picture and its care, to present some of the more recent surgical concepts and experiences in the treatment, and to report a case in which repair of a stricture was effected with the use of a vitallium tube.

Etiology and Prevention

Flickinger and Masson, reporting a summary of 188 cases, pointed out that in 181 (96 per cent) cholecystectomy had been performed, and in five other cases some other biliary operation had been done, leaving only two patients without a history of biliary operation of some sort. In not all of these, of course, was it possible to determine definitely that actual trauma to the ducts was the etiological factor. In about 12 per cent of their cases a very extensive chronic obliterative cholangitis was found. Whether or not this condition followed a previous injury was impossible to tell, but in one patient in whom it was definitely known that the common duct had been injured, just such an extensive obliterative inflammatory process was found. In Cattell's series of 123 patients, operative injury was thought to have occurred in 80 per cent of all cases. Other authors (Cole et al, Walters and Lewis, Walton, and Eliot) give figures approximating these, namely, that from 75 to 90 per cent or more of cases are directly related to previous operation. Agreement, then, is quite general that trauma to the ducts at the time of biliary tract operations, usually cholecystectomy, is by far the most common cause of these strictures.

The actual incidence of strictures of the biliary tract is very difficult to determine with any accuracy. It would seem, however, from the increasing number of reports in the literature that the incidence is definitely growing. Cattell stated that in over 5,000 gall-bladder operations at the Lahey Clinic, only one operative stricture had been produced. This is the only statement we have been able to find in the literature where a figure is given for the actual incidence. All articles consulted, however, agree that this type of case is being seen with increasing frequency at the various medical centers. By far the best treatment of the condition is prevention, where a few extra moments of care, patience and diligence may save the patient untold misery, financial burden and possibly his life.

At the risk of appearing somewhat elementary, we wish to re-emphasize some of the points in the technique of cholecystectomy, because neglect of these principles can easily lead to trauma to the biliary tract, resulting in stricture. In discussing benign stricture, Walton aptly points out that one great principle of surgery especially applies here, that no structure in the human body must ever be divided until it and its immediate surroundings have been clearly displayed. Further points which deserve reiteration are these:

1. Safety in gall-bladder surgery is strongly dependent on good exposure, which in turn is a result of adequate relaxation of the abdominal wall, proper placement and length of incision depending on the habitus and degree of obesity of the patient, and on walling off and retraction of the adjacent organs.

2. The presence of acute inflammation may render recognition of the anatomic relationships difficult or even impossible, and may also render the tissues much more friable. It is generally agreed that cholecystostomy is not nearly as satisfactory a procedure from the curative standpoint as cholecystectomy, but it may be far more preferable to drain the gall bladder than to run the risk of injury to the ducts. In the presence of

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acute inflammation a tie on the cystic artery may cut through repeatedly. In such cases, a hemostatic clamp can be left on, the wound closed around it, and the clamp loosened and removed in four or five days.

3. Perhaps one of the most frequent causes of trauma to the ducts is the presence of hemorrhage that is difficult to control. A spurter, usually the cystic artery, is divided, and immediately the depths of the wound fill with blood. Blind attempts to clamp the vessel will almost inevitably result in damage. If the ducts are damaged, it is a catastrophe of the most unfortunate type, for in finding the location of the bleeder it usually means that the hepatic duct will be clamped, and this type of injury is the most difficult to repair later. Digital compression of the hepatic artery in its course anterior to the foramen of Winslow, between the thumb and forefinger of the surgeon or first assistant, will control the hemorrhage; the field can be wiped dry, and the bleeding vessel found and accurately controlled.

4. If the gall bladder is pulled upon and is relatively mobile, the common duct may be drawn up in a loop, or "tented" in such a way that its first part runs in line with the cystic duct and is mistakenly divided. This is especially prone to occur if this is not borne in mind when resection of the gall bladder is done from above downward, for then not only are the parts more mobile, but the field is obscured by blood escaping from the raw surface of the liver.

5. In many cases of cholecystitis, especially where there has been obstruction of the cystic duct, the gall bladder may become dilated and the inflamed Hartman's pouch cover and become adherent to the cystic duct. The common bile duct then appears to issue from the inner side of the pouch and is divided in the belief that it is the cystic duct. A very similar condition occurs if the pouch is still larger and is adherent to the common duct itself.

6. The very frequent occurrence of anatomic variations in the biliary ducts and their vascular supply must be kept in mind at all times. Abnormalities of the ducts and adjacent vessels have been reviewed in detail by Eisendrath, Flint and others, and their illustrations give an excellent idea of some of the difficulties arising from anatomic variations which may be encountered. For example, in 12 per cent of individuals there are two cystic arteries, both of which do not always arise from the right hepatic. In only 75 per cent do the cystic and hepatic ducts unite at an acute angle. In 17 per cent the cystic and common ducts pursue a parallel course for varying distances before they unite, and in 8 per cent the cystic duct makes a spiral twist around the front or back of the main hepatic ducts. These are only some of the more frequent variations. Others less frequent, while only rarely encountered, need to be met only once to give rise to disastrous results if too blind faith is placed in the rules of the "normal" anatomy of this region.

Another point that deserves mention is the matter of the indications for the cholecystectomy. Flinkinger and Masson found that in their series of cases of stricture of the ducts, cholecystectomy was not associated with the presence of gallstones in at least 11 per cent and possibly more. Traumatization of the ducts does not occur frequently, perhaps, but when it does occur, it is a real tragedy. The possibility of this dire complication should always be considered in evaluating the indications for cholecystectomy, especially in the absence of calculi, and should give the surgeon serious pause in considering the removal of the gall bladder.

Diagnosis

As to the diagnosis of these conditions, there is not usually much difficulty. Walters and Snell state that 99 per cent have either jaundice or an external biliary fistula. The cases fall into three major groups. There are those in whom jaundice develops quite promptly after operation, deepens and is constant. In another group, there is prolonged biliary drainage after operation, which may intermittently cease, during which cessation the patient becomes jaundiced and develops signs and symptoms of ascending biliary tract infection. In the third group, which is the smallest, the patients pursue a perfectly normal postoperative course, and then, after a period of months or even years, insidiously develop jaundice.

The preoperative preparation of these patients sometimes requires rather extensive effort and application on the part of all concerned. Every attempt must be made to evaluate the functional status of the liver and to restore it to as nearly normal as possible. In cases of long standing, the renal function may be impaired, and an effort should be made to improve this, although this is difficult; such impairment is of serious prognostic

import. In those patients with external fistulas, large amounts of electrolytes are lost in the biliary drainage, and these should be replaced by the liberal use of bile salts and sodium chloride by mouth. The refeeding of bile will be found a disagreeable and usually unsuccessful endeavor. The prothrombin time should be brought to normal or as nearly so as possible by the employment of large daily doses of vitamin K, with or without bile salts. The patients should be given a high carbohydrate, high protein, and low fat diet. Extra glucose should be provided parenterally, and a high carbohydrate diet, for the liver with good glycogen stores will withstand anesthesia much better. Large daily doses of the vitamins are to be used, especially thiamin and other elements of the B complex. Amino acid preparations and blood transfusions also may be necessary. In the seriously ill patients, those who have had multiple operations and long-standing jaundice with evidence of impaired liver function, a period of two or three weeks of preparation may not only be desirable but absolutely essential.

Treatment

It has been often repeated that most surgeons of wide experience probably have injured the common duct on at least one occasion. This occurrence is unfortunate, but even more unfortunate is the failure to recognize and treat the injury at the time. In a divided duct the upper end is easy to find, for it leaks bile. The lower end may be more difficult to locate but it should be sought for until found, for it will never be any easier to identify than it is immediately after injury. The two ends of the divided duct should be united by end-to-end anastamosis over a T-tube. Pearse and Cattell urge that the T-tube be brought out through a separate incision in the duct, so as to avoid trauma to the site of repair when the tube is removed. A duct that has been only partially crushed should be allowed to heal over a tube. If there has been extensive crushing or maceration, excision of the damaged area should be performed and end-to-end anastamosis effected.

If the injury to the duct is discovered during the postoperative period, unless the secondary operation is performed within a few days, it is better to wait until the inflammation and edema subside somewhat so that the surgeon may have pliable structures to deal with. Cattell feels that many of the failures in repair are due to too early intervention; if an external biliary fistula persists there is no urgency, as long as the lost electrolytes are replaced, and definitive surgery may be postponed at least three months. However if the patient develops a deepening jaundice, such delay will not be well tolerated, and operation should be performed earlier, in four to six weeks.

The multiplicity of methods that may be found in the literature for the treatment of benign strictures of the biliary tract amply testifies that there is no entirely satisfactory method, and no one method is applicable to all cases. There are certain general principles that underlie a successful repair regardless of the method. Accurate approximation of mucosa to mucosa should be sought, whether this be mucosa of duct to that of duct or to that of the gastrointestinal tract. This should be accomplished without tension. The leaving of a defect in the biliary duct should be avoided, for although this may give an excellent result initially, the formation of scar tissue in the defect, and its slow contracture, will inevitably result in reformation of the stricture. The repair should be performed over a tube or mold of some type, which should remain in place for at least several months. This maintains an adequate opening during the period of initial healing, and prevents contracture of surrounding fibrous tissue. If a T-tube is used and there is enough duct available, the vertical limb should be brought through a separate small incision in the duct. Any type of tube used in the repair should be anchored in the duct. Tubes which extend through the ampulla of Vater, or into the lumen of the gastrointestinal tract in those repairs where the duct has been anastomosed to the bowel, will usually pass in a short time, irrespective of type of anchorage.

The ideal, of course, is the restoration of the structure to as nearly normal an anatomical picture as possible. If sufficient duct remains above and below the site of the stricture, this condition can usually be fulfilled. Unfortunately those cases in which there is a small localized stricture are much in the minority. Cattell describes a procedure which has been employed at the Lahey Clinic in their most recent cases, by means of which distal duct can almost always be obtained. This consists of full mobilization of the duodenum and head of the pancreas, and dissection of the intrapancreatic portion of the common duct from its pancreatic bed, thus giving 2.5 to 5.0 cm. of distal duct with which to work. This is an ad-

mittedly formidable technical procedure, but apparently gives excellent results when feasible.

In cases where duct-to-duct approximation can be obtained, there is a good deal of disagreement as to the material of choice to be used as a supporting structure. Short rubber tubes of the Sullivan type have the following disadvantages: they are passed within a relatively short time and signs of an obstruction usually develop, although there are some exceptions; rubber usually begins to deteriorate in a year or so; rubber acts as a foreign body; there is a great tendency for the deposition of bile salts in the lumen of a rubber tube. Rubber T-tubes will, of course, not pass, but are open to the objections inherent in rubber. They have the advantage that if deposition of bile salts in the lumen does take place, the tube can be removed without the necessity of major surgical intervention. Pearse introduced the use of the preformed vitallium tubes. Their advantages are that they do not deteriorate, the vitallium is well tolerated by the tissues, does not act as a foreign body, and there is less tendency for the precipitation of bile salts. However, being of cast metal, they cannot be altered at the time of operation; they will occasionally pass. It was at first thought that the deposition of salts in the lumen would not be an objection, but it is evident from recent reports that this does occur. Once plugging has occurred, with the concomitant signs and symptoms of biliary obstruction, the tube must be removed by intra-abdominal exploration. In 1945, Pearse cited twelve cases, from a series of 208 collected cases, in which the tubes became secondarily obstructed, an incidence of 5.7 per cent. Neibling and Walters in September, 1947, stated that nine tubes had become obstructed out of seventy-four cases in which they had been used, an incidence of 12.3 per cent. One might speculate on a comparison between these figures, and the possible incidence of re-exploration necessary for strictures which reform after the removal of plugged T-tubes. It would seem that the vitallium tube is still worthy of a place in the armamentarium of the surgeon treating biliary strictures. A procedure which gives presumably satisfactory results in 94.3 per cent and 87.7 per cent of cases, respectively, is at least deserving of further trial, especially in a field where perfect results are notoriously difficult of attainment.

In this connection, the work of Best is of great interest. In 1938 he described a so-called biliary flush regime in the non-operative management of the overlooked or remaining common duct stone. Recently, he suggested the application of this regime to patients whose biliary tracts have been reconstructed over a vitallium or other tube, to prevent the formation of a precipitate in the tube, and remarks that if corrosion and encrustation do develop, the thinner bile makes an easier exit. He uses the three-day biliary flush once a month indefinitely, the details of which are given to the patient as follows:

1. Take three bile salt tablets (procholon or decholin) after each meal and at bedtime for three days.
2. Take one teaspoonful of magnesium sulphate in water each morning.
3. Take two tablespoonfuls of pure cream or olive oil before noon and evening meals and at bedtime for three days.
4. On the first day, place a nitroglycerin tablet (1/100 gr.) under the tongue before each meal.
5. On the second day, dissolve an atropine tablet (1/100 gr.) in a little water and take before each meal.
6. On the third day, repeat the nitroglycerin tablet as on the first day.

Naturally, if the choledochal sphincter mechanism is not functioning, as in the cases of anastomosis of biliary tract to gastrointestinal tract, it is not necessary to use the antispasmodic agents.

In cases where no distal duct can be obtained, or where there is little or no proximal duct, union between the biliary tract and the gastrointestinal tract must be effected if at all possible. Formerly, in those cases with little if any proximal duct, an external fistula was formed, and then this was later transplanted to the duodenum or intestine. The results were very disappointing, for contracture of the fistulous tract took place very frequently, with biliary obstruction. The procedure has been largely abandoned except as a desperate measure of last resort, where other more satisfactory procedures cannot be done. The usual procedure in union of the two systems has been choledochoduodenostomy or hepaticoduodenostomy. Cattell considers hepaticojejunostomy the method of choice. Allen described an ingenious method of repair, based on the Rous en Y principle, turning in the serosa and anastomosing it to the proximal duct, with a temporary catheter brought through the anastomosis. Cole et al utilized similar methods, but produced valves in the defunctionalized jejunum, by infolding it, to prevent reflux of intestinal content, which is thought

by many to be of serious consequence in the etiology of the cholangitis. The latter is a frequent complication.

Postoperatively, the treatment is similar to that of any biliary duct surgery. The parenteral administration of vitamin K is continued, with frequent checks of the prothrombin time, for at least one week. The fluid and electrolyte balance of the patient should receive the closest attention, and there should be free use made of blood transfusions. Large amounts of vitamins, especially thiamin and the B complex, are given. Drainage from the wound is commonly encountered, but if it has been possible to attain a satisfactory repair, this will cease within a maximum of two weeks. Bile salts are given during the first week. If a tube remains within the biliary system, the biliary flush regime mentioned by Best should be employed, and it is probably well to give a cholagogue as a daily routine in addition. If a T-tube has been used, this should be irrigated twice a day indefinitely, and it should be left in place six months to a year, preferably the latter.

Case Report

This individual is a married woman, forty-four years of age. Her family history and past history were irrelevant except for the following:

Eight or ten years ago she began to have indigestion from fatty foods, consisting of gas, belching and abdominal distention. This increased in severity and soon became associated with attacks of pain, colicky in nature, localizing mainly in the right upper quadrant of the abdomen. She had never been jaundiced. In December, 1945, a laparotomy was done elsewhere for the purpose of removing the gall bladder, although she was never told exactly what procedure had been carried out. A few days after the operation she became jaundiced, the urine became dark and her stools clay colored. The jaundice gradually deepened and she states that her fever went to 104°F. About two weeks postoperatively the wound began to drain bile and she felt some better. The jaundice faded somewhat, and she was soon able to be up and about although the drainage of the wound was very profuse.

This patient was seen a year after the operation, and during this time the wound had drained continuously, the jaundice had been more or less constant but of a moderate degree. While she had been up and about most of the time, her strength and weight did not return to normal. She had a great deal of itching of her skin. She still had much indigestion from fatty foods.

Physical examination showed a woman forty-four years of age, with a moderate jaundice. There were many scratch marks over her skin from the itching. She was somewhat obese, being 67 inches tall and weighing 154 pounds. Her normal weight was 170 pounds. General examination was negative except for a high right rectus incisional scar, through the central portion of which oozed clear bile.

Laboratory studies indicated a mild secondary anemia (hemoglobin 72 per cent) and an obstructive type of jaundice (serum bilirubin 18.0). Other laboratory findings were irrelevant.

After proper rehabilitation with transfusions, administration of vitamin K, liver, iron, et cetera, exploration of the abdomen was done on December 24, 1946. The previous scar was removed, and after considerable dissection of many fibrous adhesions, the biliary fistula was followed to its origin. The liver appeared normal. During the course of the dissection, the gall bladder was found but was necrotic and wrapped in omentum. A small perforation in the fundus of the gall bladder connected to an adjacent portion of the lesser curve of the distal part of the stomach, allowing a small amount of bile to gain entrance to the intestinal tract. An attempt was made to identify the cystic duct but this, along with the entire visible portion of the common duct, was obliterated. The biliary fistula was then seen to arise from the cut ends of the two hepatic ducts. After these were clearly defined, a vitallium tube, Y-shaped, was used to reconstruct and make possible the continuity of the biliary tract. One arm of the tube was placed in the hepatic ducts and the vertical section in the divided distal end of the common duct. The remainder of the gall bladder was then removed.

Convalescence was essentially normal. The jaundice rapidly cleared up, there was no drainage from the wound, and the urine and stools soon became normal. She left the hospital on the twelfth postoperative day. Advice was given her as to biliary flushes as described, and she has now remained completely symptom free for two years and two months after the operation. There has not so far been any evidence of attacks of cholangitis or hepatitis.

Summary

1. The causes and prevention of benign strictures of the biliary tract, exclusive of congenital lesions, have been discussed, along with a few words about the general disease picture and its care.

2. Too great emphasis cannot be made of the fact that the great majority of these lesions are man-made, and therefore preventable.

3. Some of the more recent concepts in the surgical correction of these conditions have been presented.

4. A case report is given in which reconstruction of the biliary tract was carried out using a vitallium tube, resulting in a successful outcome of an individual whose common duct had been severed twenty months previously during cholecystectomy.

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COLLES FRACTURES AND THEIR TREATMENT IN GENERAL PRACTICE

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COLLES fractures, next to fractures of the ribs and fingers, have been stated to be the most frequent of all fractures and, because of this frequency, have for the most part fallen into the hands of the family physician for treatment. It is common, particularly in country practice, to see a great variety of deformed and chronically painful wrists. This is unquestionably due in a great part to the fact that the physician has been too easily satisfied with a reduction which is inadequate or that proper x-ray diagnosis, both preoperatively and postoperatively, has not been obtained. The greater percentage of these fractures are associated with marked edema and swelling, which necessitates careful diagnosis and handling. In other instances where the deformity is not too evident and is masked by slight swelling, a bandage or cast has been applied without any attempt at reduction. It is good practice to consider all injured wrists as fractured until definitely proven otherwise. This is especially true in patients over the age of forty.

Proper x-ray diagnosis should include four views: anteroposterior, posterior-anterior, lateral and oblique. Often the slight compression with resultant deformity and disabling weakness is missed in the conventional anteroposterior and lateral x-ray views. In addition to these factors, slight fractures of the carpal bones are more readily visualized. Pentothal sodium has afforded us with a safe, simple and quick method of anesthesia, and no attempt at reduction should be made without this aid because of the extreme pain associated with these injuries. I have stayed away from local infiltration of novocaine because of the possibility of introduction of infection and because of its inability to completely relax the pull of the muscles of the forearm.

In a discussion of Colles fractures we are only concerned with extension and compression fractures of the lower end of the radius, except in instances where the styloid process of the ulna may be involved. The term, Colles fracture, is too loosely used by the medical profession. The condition originally described by Colles was a transverse fracture 4 cm. above the joint line with displacement upward and backward of the lower fragment. This site is, however, rare, for these fractures for the most part occur one-half to three-quarters of an inch above the articular margin and are usually associated with some degree

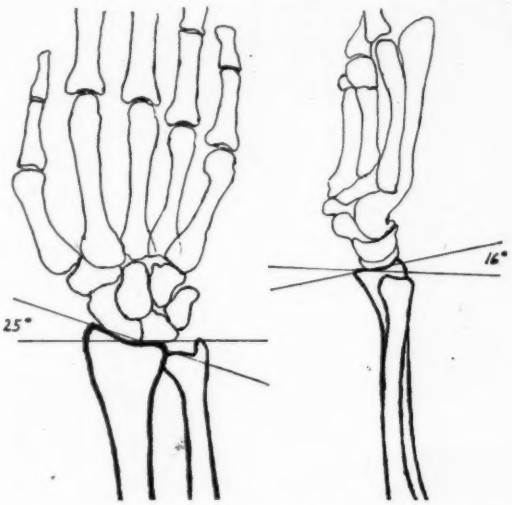

Fig. 1. Diagram taken from x-ray of normal wrist joint in the (a) posterior-anterior and (b) lateral positions, showing the articulations and angles which should be present in the well-reduced Colles fracture.

of comminution of the lower fragment. The transition of the dense cortex of the shaft into the cancellous lower portion is the point of least resistence and the usual site of fracture.

The incidence of Colles fracture is most common in early youth, in the farming industry and in the "falling down" aged. In early youth, due to the fact that the lower end of the radius develops from a single center which appears at the end of the second year and forms an epiphysis which unites with the shaft at the age of eighteen or nineteen, the epiphyseal injury or separation responds readily to simple leverage reduction. In the aged and in industrial injuries with marked fracture deformities the problem of proper reduction is not so simple.

The wrist joint has been described as consisting of three joints, the radiocarpal, the intercarpal and the carpometacarpal joints. The radiocarpal joint with which we are concerned in this discussion

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is the articulation between the scaphoid and semilunar bones and the lower articulating surface of the radius. The articulating surface of the radius is concave and directed downward, forward and inward. The joint cavity is convex both in its upward and lateral diameters. Knowledge of the normal joint angles as seen on x-ray are important to proper anatomical reduction. I wish to repeat that in the normal anteroposterior view the articular surface of the radius is inward, forward and downward, and, with the arm held upright, forms an angle of approximately 25 degrees from a horizontal line through the joint (Fig. 1a). In the lateral view likewise the articular surface facing downward forms an angle of 16 to 20 degrees toward the flexor surface of the forearm (Fig. 1b). Good reduction must nearly as possible conform to these angles. Grossly, then, the reduced fracture will show the hand at mid-position in an ulnar deviation of about 25 degrees.

Fig. 2. Application of the suspended finger trap with the arm and forearm "hanging out" and the patient under complete anesthesia. The hand is in mid-position with correct ulnar deviation. Fluoroscopic examination is easily facilitated, and casting or other fixation is completed before releasing the finger traps.

For the purpose of treatment, Colles fractures should be classified as:

1. Incomplete fractures of the lower end of the radius.
2. Complete fractures of the lower end of the radius.
3. Fracture of the posterior articular margin.
4. Oblique fractures of the styloid process of the radius.
5. Complete fractures of the lower end of the radius with displacement.

The first four groups are amendable to simple treatment by fixation with the various splints and casts with the hand and forearm in the mid-position. The fifth group comprises the great majority of all treated wrist fractures and practically always involves some degree of impaction or entanglement of fragments which, if not reduced, results in permanent deformities. This type as well has the marked early swelling due to severe trauma of the soft parts which lends an additional problem in diagnosis and reduction. Early replacement of the lower end of radius in its approximately normal position is necessary if one is to expect a functional wrist. I wish to emphasize the need for early reduction which tends to minimize the eventual swelling.

There are two methods of reduction: reduction by leverage and reduction by traction and molding. Leverage in the hands of the skilled operator is very successful, but likewise in the hands of the ordinary operator has been in a great part the cause of insufficient and poor reduction. Undoubtedly this is due to the inability to break up impactions and fragment entanglements.

With the usual traction method a pad is placed over the flexor surface of the upper arm proximal to the elbow and a band or strap fixed to the floor or operating table or held by an assistant for counter-traction. The operator grasps the hand, exerting traction and combined hyperextension to break up the impaction. Molding is accomplished with the palm of the other hand of the operator. Considerable assistance is needed to maintain a reduction until fixation is accomplished, usually by direct skin casting.

For the past three years, I have employed the use of a finger trap (Fig. 2) in all instances of forearm and wrist fractures. This particular trap (Siebrandt) engages all four fingers and the thumb. The wire spring traps are attached by adjustable cords and pulleys to a metal bar, which

in turn is attached above to a 30-pound calibrated spring cylinder by a metal chain. After applying the traps, the entire apparatus is suspended through a pulley from the ceiling of the operating room or from an overhead metal bar attached to the fracture table. With the arm suspended at a 90 degree angle, and the patient in the supine position, counter-traction is applied as usual by a band across the flexor surface of the upper arm proximal to the elbow (Fig. 3). A 15-pound pull is exerted for fifteen minutes, after which the fracture site is examined by portable fluoroscope or x-ray. In most instances, the fracture will be found completely reduced. Molding or further manipulation, if necessary, is easily done without any assistance. This method employs the use of fluoroscope or x-ray to verify the reduction before permanent fixation is applied. It is surprising how little traction force is necessary to reduce moderate displacements sufficiently. In a great number of instances, by just "hanging the arm out" in the trap without any counter-traction except the weight of the arm, complete reduction will be accomplished under general anesthesia, which aids relaxation of muscular spasm.

The criteria for complete reduction are:

1. Ability to completely flex the wrist as compared with other normal wrist.
2. The radial styloid is one finger's breadth below the styloid prominence of the ulna.
3. The normal convex contour of the dorsal surface of the lower radius has been restored and the radial adduction deformity has disappeared.

In the very severe fractures with marked comminution and radial shortening, there actually is complete bone destruction. In order to arrive at a final functional wrist, continuous traction and counter-traction must be maintained until new callus and bone fragments have been consolidated to give normal bone length. Skeletal pinning and external fixation, as described by Anderson and O'Neil of Seattle, Washington, in a paper written and published in *Surgery, Gynecology and Obstetrics* in April, 1944, has given us the best answer to this too frequent crippling problem. For traction, a Kirchner wire or small Anderson pin is passed through and through the distal one-third of the second metacarpal or the center of the first metacarpal. This pin or wire is connected to a "U" bar carrying an Anderson double clamp. Counter-traction is accomplished by two half pins inserted at opposite angles into the lateral aspect of the radius above the fracture site. After

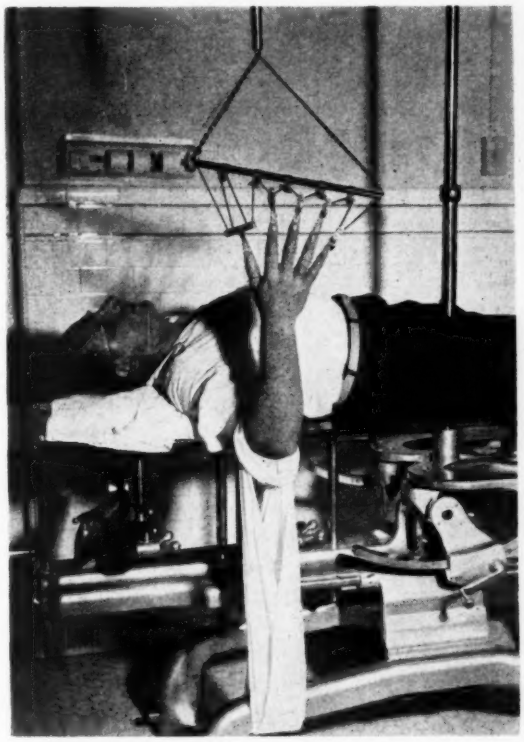

Fig. 3. Reduction of fracture impactions and comminutions with the application of 15-30 pounds of counter-traction as measured on the scale suspended from the overhead table bar.

manual reduction and radial length have been accomplished with the finger trap, two fixation rods are applied between the one half-pin unit in the upper radius and the "U" bar attachment in the second metacarpal bone. This method facilitates early function of the entire hand and even permits considerable pronation and supination of the forearm. Activity of the hand is encouraged immediately, and the use of a sling or other support is discouraged. Eight to twelve weeks are necessary in this apparatus for sufficient consolidation to be accomplished. This period of time can be determined only by x-ray. A number of my colleagues feel that skeletal pinning and external fixation should not be confined to the severe comminuted type of fracture. Too often, after adequate reduction and casting and with the

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OVARIAN PREGNANCY

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THIS report was inspired by a patient with an ovarian pregnancy upon whom it was our privilege to operate, and is presented to add this one case to the accumulated literature regarding this rare and interesting condition.

Ovarian pregnancy is the rarest of the primary forms of gestation, except for the cervical, which is almost unique,[1] and for the abdominal. DeLee[9] quotes Werth as considering primary abdominal pregnancy so rare that it need not be considered, but Curtis[5] states that several authentic cases of primary abdominal pregnancy have been recorded.

The possibility of ovarian pregnancy was first suggested by Mercer in 1614,[22] but it was not until 1682 that Maurice claimed the first reported case.[16] Following this, numerous cases were reported, but analysis of these disclosed them to be inconclusive for the most part. Catherine van Tussenbrock in 1899 is credited with the first complete histological description of an ovarian pregnancy, and Thompson in 1902 was the first American to demonstrate an undeniably authentic specimen.[22,24,25]

The literature following this becomes very confusing as to the actual number of genuine cases of ovarian pregnancy. Norris listed nineteen positive cases up to 1909, and Geller finds a total of forty-five cases up to December, 1941.[11] Novak, in his textbook published in 1940, wrote that there were about fifty reported cases in which the diagnosis of ovarian pregnancy is based on acceptable evidence.[18] Smiley, in October, 1944, states that only about fifty cases in the literature can fulfill rigid requirements,[19] while Stamm in June, 1946, reports eighty-five proven cases.[2] The last article to appear on the subject, by Wittenberg in April, 1948, presents a case which the author considers to be the eighty-first.[23]

The actual incidence of ovarian pregnancy would be probably much higher if all hemorrhagic lesions of the ovary were subjected to pathologic study. The incidence has been estimated at one in 25,000 pregnancies, and to be from 0.7 to 1.07 per cent of all ectopic pregnancies.[3,14]

Ovarian pregnancy has been classified into two main types, the primary and the secondary. The primary implies that the ovum is fertilized while it is still within the graafian follicle, and there implants and grows. This was considered by DeLee[9] and others to be the only type, but now a second type, the secondary or superficial, is considered, wherein the ovum is fertilized after its release from the follicle and subsequently implants itself on the surface of the ovary.

The rarity of ovarian pregnancy, inasmuch as the ovary and the ruptured follicle are so accessible to the sperm cells, has been explained by the fact that the ovum as it exits from the ovary must undergo maturation before it is capable of being fertilized. This normally occurs during its passage into and through the outer portion of the tube.[25]

It is conceivable that the ovum, after having been fertilized as usual in the fallopian tube, might travel in a retrograde manner and lodge in the still gaping follicle, there to develop and be classified as a primary ovarian pregnancy.[4,19] Or a tubal pregnancy may abort, and, if the separation of the placenta has been rapid and the chorion is in good condition, it may implant on the ovary, or elsewhere, and continue to grow.[21]

Endometriosis has been noted on several occasions to be associated with ovarian pregnancy, and it may be that ovarian implantation cannot take place in the absence of endometrial tissue on the ovary.[19] The fact that the ovary is the most frequent site of endometrial implants bears some support to this, but many cases have been described with no signs whatever of endometriosis. Decidua itself is not necessary for the implantation or continuation of a pregnancy.[14]

The implantation on the ovary is pathologic from the beginning, and is doomed to failure sooner or later. The ovary reacts with the formation of a pseudo-decidua consisting of fibrin, lutein cells, and masses of trophoblasts.[11] The early implantation and placentation do not differ greatly from intra-uterine pregnancy except for the absence of true decidua.[25]

The usual course of ovarian pregnancy is rupture of the ovary and extrusion of the products of gestation into the abdomen within the first trimester.[9,20,25] Following this, molar formation, including hydatidiform, has, on occasion, been observed.[9] But, surprisingly enough, some are car-

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ried long enough to produce a viable baby. In a survey of the literature, Nicholls finds that thirty-eight cases of ovarian pregnancy have gone to the age of viability of the fetus (seven months), from which were salvaged twelve living babies and twenty-two living mothers. He adds a case of his own where both the 10 pound 3 ounce child and the mother lived.[17] Of those reaching full term, the usual termination has been death of the fetus following an unproductive period of labor.[20]

The symptoms of ovarian pregnancy resemble very closely those of tubal ectopic pregnancy, from which it cannot be differentiated except at laparotomy. It may rupture later than the usual tubal pregnancy, and there may be less uterine bleeding. The pelvic pain may be less acute since there are slight, if any, muscle cramps.[19]

The differential diagnosis of ovarian pregnancy is the same as for the more common tubal ectopic pregnancy.

From the pathological standpoint, the criteria of diagnosis of ovarian pregnancy were formulated by Spiegelberg in 1878, and are quoted by Dale as follows:[6]

1. The tube, including the fimbriated end, must be intact and must be distinctly separate from the ovary.
2. The gestational sac must definitely occupy the normal position of the ovary.
3. The gestational sac must be connected with the uterus by the utero-ovarian ligament.
4. Unquestionable ovarian tissue must be demonstrable in the walls of the sac.

DeLee, however, states that to establish the anatomic certainty of an ovarian pregnancy, all that is necessary is to prove that "the tube, including the fimbria ovarica (excluding also gestation in an accessory tube), is absolutely free from any part in the formation of the fetal sac."

The treatment of ovarian gestation is that of any ectopic pregnancy: excision of the products of gestation as soon as the diagnosis is made, and the patient's condition permits.

Case Report

Mrs. E. D., a twenty-four-year-old white woman, was referred to us by Dr. Harry Palmer of Blackduck, Minnesota, and was admitted to the Lutheran Hospital at 12:30 a. m., January 9, 1948, with the chief complaints of severe lower abdominal pains and vaginal bleeding.

The patient stated that her last menstrual period had begun on November 17, 1947, and was a normal period of five days' duration. Her menses had previously been regular, occurring every twenty-eight days. Since her last period, she had noted some enlargement of the breasts, but had experienced no nausea.

On December 22, 1947, five weeks after her last menstrual period, she had suffered an attack of severe lower abdominal pains, crampy and intermittent in nature, that were described as going through to her rectum. There was no nausea, vomiting, bowel upset, or collapse. These pains lasted about two days. On December 27, 1947, she began to have moderate and irregular vaginal bleeding, which continued up to the time of the hospital admission. At 4:00 p. m. of the day before admission, she had again experienced sudden and severe pain in both lower quadrants of the abdomen, associated with weakness. She had not fainted. She was seen by her home physician and sent to the hospital with the diagnosis of a ruptured ectopic pregnancy.

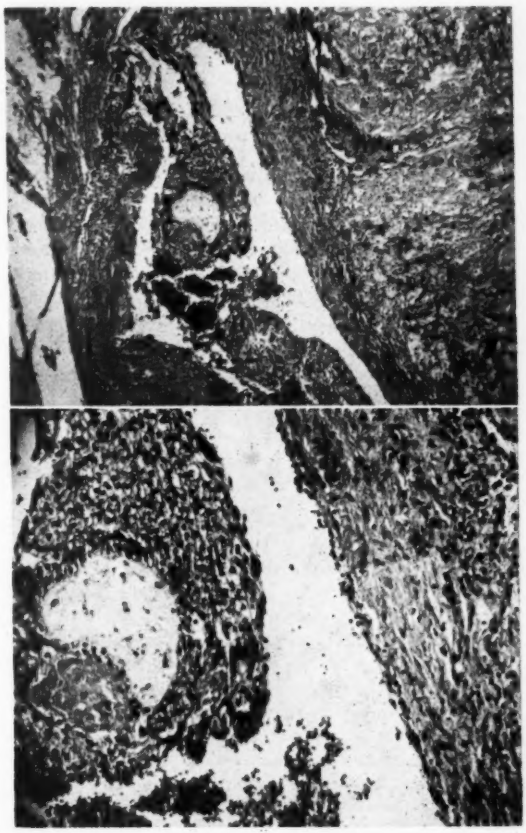

Fig. 1. *(above)* Photomicrograph of a section of the right ovary, showing corpus luteum on the right and a cross-section of placental villus just to the left of center.

Fig. 2. *(below)* Higher power view of same section, with corpus luteum on the right and placental villus, surrounded by decidua-like cells, on the left.

The past history revealed only that she had a son four years old, with no other pregnancies, and that she had been slowly losing weight for the past three years.

The significant findings of the physical examination

were as follows: temperature 97°F.; pulse 68, regular, fair quality; respiration 18; blood pressure 92/50. She was a thin but well-developed white woman, very pale. Her skin was warm and dry. Breasts showed increased glandular tissue, with no secretion or masses. There was fullness of the lower abdomen; muscle guard in the right lower quadrant with severe rebound pain; very tender throughout the lower abdomen, more on the right, with doughy resistance to pressure. There was decreased resonance on percussion over the suprapubic area, extending into the right flank; very few peristaltic sounds were heard. Liver dullness was present; the liver, spleen and kidneys were not felt. Pelvic examination showed no active bleeding. The cervix was soft, with marked pain on any motion of the cervix. A soft fullness was felt in the cul-de-sac and on the right side; the uterus could not be outlined because of abdominal muscle guard. Pelvi-rectal examination showed a soft bulging fullness in the cul-de-sac, more on the right; no definite mass was felt.

The white blood count on admission was 22,450. The red blood count was 3,610,000 with a hemoglobin of 70 per cent. The urine showed a trace of albumin, with 8 to 10 white blood cells and 6 to 8 red cells per high power field. The diagnosis of a ruptured right tubal pregnancy was made. Donors were obtained, and the patient was given two 500 c.c. transfusions of whole citrated blood.

At ten-thirty a. m. on the day of admission, the patient was operated upon under ether anesthesia. On opening the abdomen through a suprapubic midline incision, a large amount of liquid and clotted blood was encountered and evacuated. The cul-de-sac was filled with clotted blood. The uterus was enlarged to one and one-half times the normal size and was soft, but otherwise normal. Both tubes and the left ovary were entirely normal. The right ovary was 3 cm. by 6 cm. in size, and had an undisturbed anatomical relationship with the broad ligament and the uterus. The fimbriated end of the right tube was entirely free from the ovary. A cyst 2 cm. in diameter filled with partly clotted blood was seen in the right ovary. There was placental tissue firmly adherent to, and growing from, the free border of the right ovary. Several pieces of placenta, undergoing necrosis, were found lying free in the cul-de-sac. The fetus, which should have been 15 mm. in length, was not found. The appendix, cecum and pelvic colon were normal. No endometrial implants were seen. After the pathological condition was identified, the right ovary was delivered, the mesovarium and the ovarian ligament clamped across, and the ovary removed. Two suture ligatures were used to close the mesovarium. The fluid and clotted blood and the loose placental fragments were removed from the cul-de-sac and the abdomen was closed in layers with silk. The appendix was not removed. Five hundred c.c. of whole citrated blood was given during the operation. The postoperative course was uneventful. The red cell count was 4,610,000 the afternoon of the operation, with a hemoglobin of 93 per cent.

The patient was allowed to walk the day following operation, and was discharged from the hospital on the third postoperative day, to be ambulatory at home. She returned to the office for the removal of skin sutures on the seventh postoperative day, at which time the wound was well healed. The patient has since become pregnant again.

Pathological study of the specimen was performed by Dr. Kano Ikeda of Saint Paul, Minnesota, whose report is as follows:

"Gross: The specimen consists of an ovary, slightly enlarged. It contains a large corpus luteum, about 2 by 1 by 1 cm. Alongside of it is a hemorrhagic area about 2 by 2 by 1.5 cm. which apparently has ruptured into the abdominal cavity, from which are obtained several clots of blood.

"Microscopic: The ovary is diffusely edematous and shows several cystic follicles. There is a large, well-developed corpus luteum with hemorrhagic center. Alongside of the corpus luteum, and tightly adherent to it, is placental tissue showing signs of hemorrhage, infiltration of chorionic cells in the wall, and numerous well-developed chorionic villi.

"Diagnosis: Ovarian ectopic pregnancy."

Summary

A case, proven by operation, is presented which satisfies Spiegelberg's four criteria for a true ovarian pregnancy.

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GLOMUS TUMORS

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GLOMUS tumors produce severer and more disabling pain than any tumor known to the oncologist. When fully grown these tumors are, however, the smallest (Fig. 1) of any of the tumors usually presented for treatment; that is, at the time a glomus tumor is removed it is smaller than any other tumor that the surgeon encounters. This tumor apparently occurs infrequently, yet once the condition is known and understood and the method used to make a diognosis is appreciated, many more of these tumors than are anticipated may come to light and consequently many more patients than heretofore will be relieved of distressing pain which often has been attributed to a functional disturbance.

In 1935 I[3] reported the first case of glomus tumor that I had seen and called the attention of the members of the clinic staff to this unusual and very interesting neoplasm. Since that time I have seen, diagnosed and surgically removed fourteen glomus tumors. Other surgeons at the Mayo Clinic also have removed glomus tumors and in our experience the results have been most gratifying.

The patient who has a glomus tumor frequently is middle-aged or older. The chief complaint is severe pain which usually centers around a small area on one of the extremities. The pain may be localized sharply or, what is more frequently true, the pain may extend up or down the extremity from the site of the lesion. Often the lesion seems entirely too small to produce the amount of pain of which the patient complains and obviously suffers. When an attempt is made to palpate the lesion, the patient will withdraw the extremity for fear that excruciating pain will be produced.

The normal glomus from which these tumors arise is located most commonly in the subungual region and a frequent site for a glomus tumor is underneath a fingernail. Nevertheless the tumor may be deeply situated. In the case of a patient who was seen recently (Case 2) the tumor was situated along the periosteum which covered the posterior aspect of the femur. The true subcutaneous glomus tumor also may not be visible, but if the region of the tumor is stroked or touched the patient will exclaim, due to the severe pain which is caused.

The first point in the diagnosis of this lesion is to suspect it. When a patient complains of an excruciating, lightning-like pain for which there is

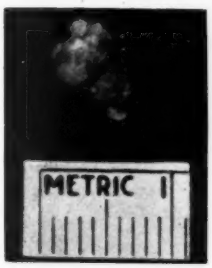

Fig. 1. A subungual glomus tumor. This tumor was larger than most glomus tumors of the subungual variety.

Fig. 2. Extremely large glomus tumor which was situated deep in the popliteal fossa (Case 2).

no obvious cause, a careful search should be made for a glomus tumor. The one special test which I have found to be of most value in the location and subsequent diagnosis of the lesion is the one which I have called the "pin test."[4] This test is employed as follows.

An ordinary steel pin is used. The patient is asked to indicate the point of maximal pain or tenderness. Often, as the physician passes his finger toward the spot of maximal pain, the patient will withdraw the extremity, just as the patient with trigeminal neuralgia will withdraw his face when the trigger zones[2] are approached. However, when the patient's confidence is gained, the point of a steel pin can be pressed into the skin as near as 1 cm. to the lesion without producing severe pain. As soon as the point is pressed over the lesion, the patient will have an attack of excruciating pain. On many occasions when I could not see the lesion, I have been able to identify its location and make the diagnosis with the help of the pin.

Tumors which might be confused with glomus tumors are the neurofibromas, angiomas and melanoepitheliomas. A plantar neuroma,[1] which today is recognized as the cause of so-called metatarsalgia, is another tumor which might also be

From the Section on Neurologic Surgery, Mayo Clinic, Rochester, Minnesota.
Read at the meeting of the Southern Minnesota Medical Society in Winona, Minnesota, September 13, 1948.

confused with the glomus tumor. As a rule, neurofibromas are much larger than glomus tumors before they produce symptoms comparable to those of glomus tumors. An angioma, on palpation, would not produce the pain which is so characteristic of the glomus tumor although it may look entirely like a glomus tumor. A melanoepithelioma might resemble a glomus tumor superficially but again it does not produce the pain which is characteristic of a glomus tumor.

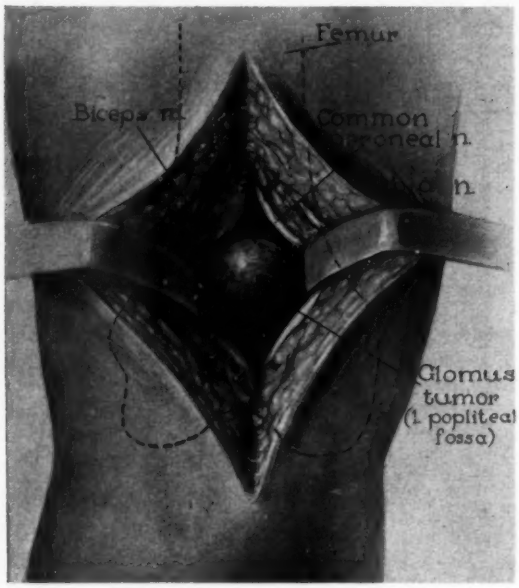

Fig. 3. Relationship of the tumor to popliteal fossa (Case 2).

The treatment of the glomus tumor is excision. Roentgen therapy and radium therapy have not proved of value. The lesion should be recognized as being benign, and unnecessary amputation of a finger or an extremity should not be carried out. The excised tumor should be submitted to a competent pathologist who is acquainted with glomus tumors; he will identify the microscopic characteristics by which the tumor may be recognized.

Since these tumors are unusually small and consist of blood vessels as well as muscle and nerve fibers, the lesion may be difficult to find at the time of exploration. I prefer not to put the patient to sleep until the site of the lesion is identified or very closely approximated or until the tumor is exposed surgically. My practice is to identify the site of the lesion with a wheal needle on a Lundy syringe containing 0.5 per cent procaine hydrochloride. After the site of the lesion is identified, field block is carried out proximally in order to block off the area of the tumor so that the tumor may be exposed while the patient is awake. As the tumor is approached the severe pain becomes greatly exaggerated. It is important not to inject any solution into or immediately adjacent to the tumor, for to do so may result in blanching the tumor and consequently it will be difficult to distinguish it from the adjacent tissues.

As a matter of fact, it often has been necessary for me to have the patient undergo general anesthesia as the tumor itself is approached. Particularly is this true if the tumor is deeply situated, as for instance, in the calf or the thigh. The subungual variety of lesion and that which is located superficially in the skin and could not be easily lost, can be removed completely with local infiltration; general anesthesia in such cases is not necessary. The following reports of cases are illustrative of glomus tumor, the difficulties which may be encountered in its diagnosis and the gratifying result which may be obtained when the tumor is recognized and successfully removed.

Report of Cases

Case 1.—A woman, fifty-one years of age, had noted a small red spot beneath the nail of the third finger of the right hand for sixteen years. On the slightest touch she experienced pain. Gradually the pain became paroxysmal and continued to increase in frequency and intensity. The pain extended from the finger to the hand, forearm, and shoulder. During the two years previous to her registration at the clinic she had had severe pain in the right upper extremity without any stimulus, such as touching the finger. The "tumor" as she described it had become larger and the nail had become slightly raised. The pain had become unbearable and she was anxious to obtain relief. Examination of the finger disclosed a slightly elevated fingernail and a small tumor beneath. The findings were typical of a glomus tumor; diagnosis was made and surgical removal of the tumor was advised and accepted. Local anesthesia was used. The distal three-fourths of the nail and nail bed were removed and a small tumor was exposed. The tumor, although it was compressed, had elevated the nail and it rested on the dorsal aspect of the ungual phalanx of the ring finger of the right hand. The entire tumor was removed along with some of the tissue about it. Then the portion of the ungual phalanx which had been depressed by the tumor was curetted and a vaseline gauze dressing was applied. The tumor measured only 1 mm. in diameter and the findings, on microscopic examination, were typical of a glomus tumor; namely, vascular elements, muscular elements and nonmedullated nerve fibers.

Case 2.—The largest glomus tumor which I have re-

moved had afflicted a woman twenty-six years of age. This woman's chief complaint was weakness and pain in the left leg of thirteen years' duration. Exercise caused increased pain and she could not run or dance. At the age of twenty years the pain began to involve most of her left leg. It finally became so severe that it was difficult for her to get around. At the time this patient came to the clinic she had pain constantly. She said the pain was aggravated by cold damp weather. Heat did not give complete relief. During the four years previous to the patient's registration the left leg had felt weaker and it became increasingly difficult for her to walk. When she did walk, she had a distinct limp on the left side.

Examination revealed exquisite tenderness in the left popliteal fossa and detailed palpation was impossible. The circumference of the left leg was 1.5 inches (3.81 cm.) smaller than the right and that of the left thigh was 2 inches (5.08 cm.) smaller than the right. Results of a neurologic examination were entirely negative. There was no evidence of vascular disease; that is, all arterial pulsations were normal. There was no evidence of arterial insufficiency. She did have some secondary vasomotor spasm which, in the opinion of the consultant, probably contributed to the coldness of the leg, but not to the pain. A tentative diagnosis of glomus tumor in the popliteal fossa was made and exploration of the tender area was advised and carried out. Under local infiltration with 0.5 per cent benzoyl-γ-(2-methylpiperidino)-propyl hydrochloride (metycaine) at the site of maximal tenderness, the exploration was started. When the common peroneal nerve was exposed the patient had considerable pain but when the nerve was retracted, the maximal tenderness was found to be much deeper. The pain was so great that it was necessary to anesthetize the patient with pentothal sodium given intravenously. The dissection was then carried down to the level of the lower end of the femur just above the knee joint and a bluish tumor mass was encountered in the loose areolar tissue adjacent, but not attached, to the joint and not attached to the periosteum of the femur. The tumor was typical of a glomus tumor, in every way except for its extreme size (Fig. 2). After adequate exposure of the mass, it was freed and removed in its entirety. The wound was closed in layers without drainage. Figure 3 shows the relationship of the tumor to the surrounding structures. When the patient awoke from the anesthesia she was free of pain and has remained free since.

Summary and Conclusions

Glomus tumors are small, benign neoplasms which arise from the normal structures found in the body, namely, cutaneous neuromyoarterial glomera. The tumors are usually subcutaneous and characteristically subungual in location. However, they may be deeply situated as in the case reported in which the tumor rested on the lower end of the shaft of the femur. Severe pain is the chief complaint. When the tumor is suspected a diagnosis can usually be made. The treatment is complete excision of the tumor. The removal of such a tumor usually results in cure. At the Mayo Clinic we have not had any experience with recurrence, although recurrences have been reported in the literature. The tumor is benign and amputation of a digit or extremity probably is not justifiable.

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BENIGN STRICTURES OF THE BILIARY PASSAGES

(Continued from Page 268)

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Case Report

WATERHOUSE-FRIDERICHSEN SYNDROME

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THIS is a case report of an eight-month-old male infant that was referred by Dr. Snyker of Ely, Minnesota.

The infant was admitted to the Virginia Municipal Hospital on June 11, 1948, at 6:45 p.m., and expired about forty minutes later. The complaints, as given by the mother, were as follows: About five hours previous to admission, the infant became suddenly ill with a fever of 105.6°, followed shortly by a bluish discoloration of the lips and nails. Soon after, the infant developed pin point reddish areas, followed by enlarged spots of reddish color all over the body. About 5:00 p.m., the infant became stuporous. He was seen by the private physician, who advised hospitalization in Virginia. The mother stated that the youngster had had whooping cough six weeks previously, but for the past two weeks there had been no cough and no signs of any disease. On the morning of admission, the youngster awoke perfectly well, ate a usual breakfast and noon meal, and appeared to be in good health until the sudden onset of high fever at about 2:00 p.m. The family history was irrevalent. There were two siblings, living and well; both had had chicken pox and pertussis the past spring. The father and mother were living and well.

Examination.—The baby was well developed and well nourished. He was in a state of stupor and appeared moribund; the lips and nails were cyanotic; the skin was mottled, and the child was covered from head to foot with purpuric spots, varying in size from 1 mm. to 2 cm. The pupils were dilated and fixed, and did not react to light. The optic nerve was hemorrhagic on opthalmoscopic examination. The fontenel was soft. There was no nuchal rigidity. The arms and legs were flaccid. The Babinski reflexes were positive. The head and upper part of the body were very hot; the legs and lower abdomen were very cold. The abdomen was rigid. There were no evident jerking movements of the body or extremities. The ears, nose, and throat were negative. The baby was typed for transfusion, given coramine, vitamin K, and oxygen; and while the transfusion was about to be started, the infant expired. An attempt by the laboratory technician to get sufficient blood for blood study was unsuccessful. However, sufficient blood was obtained for a blood smear. The smear revealed 99 per cent polymorphonuclear cells and 1 per cent lymphocytes.

The autopsy findings, as reported by Dr. George Berdez, pathologist, were as follows: A well-nourished male infant measuring 28.5 inches and weighing about 22 pounds. Numerous erythematous patches and hemorrhages of the skin measuring up to 2 cm. in diameter. These changes were most marked on the chest and abdomen. The arms, legs, face, and mucous membranes also displayed hemorrhagic areas. On opening the abdominal cavity, the abdominal viscera was found to be within normal limits. The adrenals were very large, about three times the size of normal. On cut surface both adrenals showed a large hemorrhage in the medullary substance, and the cortical layers were also infiltrated with diffuse hemorrhages. The kidneys were normal. The patches of Peyer of the small intestine and the solitary follicles of the large intestine were prominent. The left lung showed small hemorrhages of the visceral pleura; the tissue, congested and infiltrated with hemorrhages, showed areas of beginning bronchopneumonia. The right lung showed a similar condition.

Diagnosis.—(1) Massive bilateral adrenal hemorrhage —consistent with the Waterhouse-Friderichsen syndrome. (2) Beginning bronchopneumonia. (3) Erythematous hemorrhagic eruption of the skin.

I believe this case fits into the entity known as the Waterhouse-Friderichsen syndrome, and would like to briefly summarize this condition.

Discussion

The Waterhouse-Friderichsen syndrome is a clinical pathological entity that is receiving more widespread recognition in diagnostic circles. Although much discussion has arisen as to the proper application of this term, present opinion would reserve its use for those cases in which there is a fairly constant group of clinical signs and symptoms typical of a fulminating septicemia: sudden onset, hyperpyrexia, purpura, cyanosis and shock, associated with a definite pathological picture embodying adrenal hemorrhage.

History.—The earliest report[4] of this condition appeared in 1894 when Valcker described fulminating purpura with bilateral adrenal hemorrhage. In 1911 Waterhouse[5] presented a similar series of cases with which he associated a distinct clinical picture. Friderichsen[1] in 1918 summarized the literature, but it was not until 1933 that the designation of Waterhouse-Friderichsen was attached to the disease by Glanzmann[2]. In a recent summary of 125 cases,[3] twenty-nine had been reported since 1941.

Etiology.—Various organisms were postulated as the etiological agent. However, careful bacteriologic studies in more recent times have shown the condition to be almost exclusively the result of fulminating menginococcemia. Thus, Thomas[6] reported a series of twenty-six patients dying as a result of menginococcemia before typical meningitis symptoms occurred. Of twenty-three autopsies in this series, seventeen had bilateral adrenal hemorrhage. No restricting age incidence was reported, although the majority of cases occur in children, ninety per cent in those nine years and under.

Symptoms and Course.—The patient is typically described as being in perfect health until the onset. In classical cases, the child awakens from sleep with a cry. He may be seen within two or three hours by a physician, during which time the hyperpyrexia, marked malaise, headache, vomiting, and abdominal pain usually

Presented before the Northern Minnesota Medical Society, Duluth, Minnesota, August 21, 1948.

is present. The first characteristic feature which usually prompts hospitalization is the accompanying cyanosis of the lips and nails; closely following this the purpura manifestations occur. These show themselves as hemorrhagic areas, usually beginning on the limbs, trunk, and mucous membranes as tiny isolated points which rapidly enlarge and coalesce. The petechiae have dark red or purple centers which do not fade on pressure. They develop very rapidly, literally under the observing eye. Hyperpyrexia is universally present. Various investigators report a notable fall in blood pressure readings. This is a direct indication of the tremendous circulatory collapse accompanying the toxemia. The typical picture is that of a fast, weak, irregular pulse; shallow respirations; pallor; slowing of the heart rate, and a terminal fall in blood pressure and temperature, followed by death in four or five hours after the onset. Associated features occurring as part of the picture of shock are Cheyne-Stokes respirations, urinary incontinence, coma, and delirium. Fleeting signs of pulmonary involvement are often seen. Occasionally neurological signs such as muscle flaccidity, tremor, chills, convulsions, and rigidity of abdominal muscles are observed.

Until recently very few reports of recovery have been brought forth. Several instances of recovery from what apparently appeared to be a fulminating meningococcemia have been reported, but whether the adrenals were involved cannot be ascertained. Most of the cases are fatal. It has been suggested that those individuals who have recovered from fulminating meningococcemia be followed for the possible development of Addison's disease.[7]

Treatment.—1. Combatting bacteremia: sodium sulfadiazine intravenously and subcutaneously, maintaining a blood level of 15 mg.[7] Penicillin is of questionable value but should be tried.

2. Overcoming circulatory collapse: adrenal cortical extract and adrenalin. Transfusion and vitamin K.

3. Supportive measures: (1) fluids and plasma; (2) respiratory stimulants, coramine, and oxygen; (3) sedation for delirium; (4) nasal suction for abdominal distension, if present; (5) saline enemas. The treatment, to be effective, must be started early.

Laboratory Findings.—Recovery of organisms from (1) spinal fluid, (2) blood culture, (3) petechial hemorrhagic areas. Spinal fluid and blood findings are inconsistent. Bleeding time and clotting time are normal.

Pathological Features.—1. Predominant pathological feature is that of hemorrhage into the adrenal gland. Bilateral hemorrhage occurs in 95 per cent of the cases.[8] At autopsy, the adrenals are enlarged, dark red and bluish purple in color, and contain massive intercapillary hemorrhage.

2. Extensive purpuric eruption is found on the face, extremities, and buttocks.

3. A fairly constant finding is generalized hypertrophy of the lymphatic tissue. Signs of meningeal irritation are notably absent.

Summary

1. An increasing number of cases of the Waterhouse-Friderichsen syndrome have been reported in recent years, probably due both to its more accurate recognition and to the increased incidence of meningococcic infections during the past few years.

2. The condition is believed to be the result of fulminating meningococcemia and shock, and the pathologic findings can be explained by the toxic results of the organism.

3. Present usage of the term, Waterhouse-Friderichsen syndrome, should be confined to those cases exhibiting the fairly typical clinical course as described, and undoubtedly to those patients whose symptoms are confirmed by autopsy.

4. The present outline of treatment centers on control of the bacteremia, on measures aimed to combat shock and secondary symptoms, and on supportive treatment.

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COLLES FRACTURES AND THEIR TREATMENT IN GENERAL PRACTICE

(Continued from Page 271)

recession of edema and swelling, "slipping" occurs within the first two weeks and, if not recognized by x-ray, ultimate deformities result. With pinning and fixation checked by x-ray, this occurrence is impossible, and an earlier functional wrist and hand is obtained. The technique of pinning is easily acquired and should readily be accomplished by the good general practitioner.

In conclusion, the use of a finger trap has greatly aided me in arriving at uniformly good reductions in all Colles fractures, and skeletal pinning and external fixation have aided in the moderately severe displacements and have given me a method for continuous traction and counter-traction in the severe comminuted fractures which have always produced permanent crippling. Frequent x-ray examination will verify this reduction especially during the first two weeks.

History of Medicine In Minnesota

NOTES ON MEDICINE IN FREEBORN COUNTY, 1857—1900

ANDREW GULLIXSON, M.D.
Albert Lea, Minnesota

(Continued from February issue.)

Dr. William S. Wood was born at Hornicorn, Wisconsin, August 1, 1873. His father, William C. Wood, was born at Frost Village, Province of Quebec, Canada; and his mother, Fanny (Seelye) Wood, was born at Queensburry, New York, June 29, 1847. Both his parents died at Faribault, Minnesota, in 1921. Two surviving members of the family are a sister, Mrs. Florence S. Gardner, who now resides at Faribault, and a brother, Dr. Harry C. Wood, a long-time member of the Mayo Clinic staff, Rochester, Minnesota.

Dr. William S., before entering college, was a student at Shattuck School in Faribault. He graduated from the McGill University Medical School in 1896, and was a member of the Zeta Xi Fraternity. He practiced his profession at Geneva, Freeborn County, for a few years, paying particular attention to eye, ear, nose, and throat. From Geneva he moved to Blooming Prairie, Minnesota, and practiced there until he went abroad for further study. He spent two years, 1905-1906, in Europe touring the continent but especially studying in Vienna, where he specialized in eye, ear, nose, and throat. Upon his return he practiced his specialty at Albert Lea, Owatonna, Faribault, and surrounding towns. He had not located permanently when he was stricken with tuberculosis and went to Arizona. He returned to Faribault and died there March 16, 1910. Dr. Wood was a member of the Episcopal church. He never married.

Dr. H. G. Lowithean, a graduate of Hamline Medical College, 1894, located at Glenville in January, 1895. He married Miss Jennie E. Lewis of Glenville in 1895. In June, 1896, he sold his drug store and located at Fairmont. In 1900, according to the records of the State Board of Medical Examiners, he was located at Dennison, in Goodhue County.

Dr. Gilbert G. Belsheim was born on a farm near Forest City, Iowa, August 31, 1871. His father, Guldbrand G., and mother, Guro (Sather) Belsheim, immigrated to America from Norway in pioneer days. He was raised on a farm, attended rural schools and later the Forest City, Iowa, High School. While at Forest City he was domiciled in the home of Dr. Harry Irish, a man of noble character and a splendid physician and gentleman, and became interested in medicine. He attended the University of Iowa Medical School and graduated there in March, 1895.

After graduation, he practiced a few months at Kensett, Iowa. In 1896 he located at Albert Lea and practiced there until 1900, part of this time serving as health officer. In 1900 he moved to Northwood, Iowa, where he practiced until 1903. In the fall of that year he entered Luther Theological Seminary, Saint Paul, as a student of theology and was ordained into the ministry in 1906.

Three brothers, Ole G., a clergyman; Gullik, an attorney; Andrew G., a doctor;

and two sisters, Anna and Dena, comprised the family. Dr. Belsheim was twice married. His first wife, Emma Caroline Isaacson of Thompson, Iowa, bore him one son, George N., now a teacher of music in Minneapolis public schools. His second wife, Grace Christensen, bore him two children: Margaret and Harold, the latter a theological graduate who served as chaplain in the U. S. Army European Sector, during World War II. Dr. Belsheim died at Fort Dodge, Iowa, in May 1930, aged fifty-eight.

Dr. Gustav W. T. Barck was born at Barkaynd, Sweden, May 10, 1832. His genealogy dates back to one Hans Barck, a German baron who emigrated to Sweden in 1670 and settled at Stromstad, where he became a merchant. His father, Rev. Gustaf O. Barck, son of Regimental Commissary Hans Lorentz Barck, was born at Lille Holma, February 5, 1804. He was ordained at Wesjo, March 10, 1837, "after foreign examinations had indicated him to have a well-grounded insight." He served pastorates, founded his own private schools, and was famous as a teacher of Latin. In a résumé of his activities dated July 19, 1872, he speaks of his own private school "honored by the confidence of parents of many different communities." He cites the example of one "Robert Henning Edward Hedenstierna, enrolled by me at age seven years, who could, at ten years of age, let the incumbent Bishop, Esias Tegner, Dean C. L. Henlin, and Professor J. L. Wickelgren, on one and the same day, hear one of his age speak Latin with unusual ease." His father married Ulricka Fredricka Lundquist on March 6, 1832. In the résumé dated July 19, 1872, he speaks of his children as follows:

"None living in Sweden. Of the sons, Gustaf Wilhelm Theophil and Axel Edwin Theodore, will here only say that they, more than twenty years ago, journeyed to the United States of North America, after being duly accredited and provided with passports, the former a doctor and owning his own pharmacy, and the latter a teacher of song and music, who also conducts a considerable business in music and musical instruments. So far as is known they honor the Swedish name, have a good livelihood, and enjoy respect. They appear for the present not to wish to re-visit Sweden. *Habiant sibi!*"

From the above information it may be assumed that Dr. Barck had a well-rounded preliminary education in his father's private school and that he, too, at the age of seven years was reading Latin.

The following is quoted from direct information presented by his son, H. A. Barck, of Albert Lea:

"Dr. Gustaf W. Barck, son of a minister, and rector of the parishes of Qvenneberga and Hjoresberga, being the eldest, was supposed, according to custom, to follow in his father's vocation, a minister of the Gospel. But he seemed to have an unconquerable desire to study medicine. This was so apparent that evidently his father gave up all his fond hopes in this matter. Then his mother came to his rescue and plans were made and perfected for sending him to Heidelberg, Germany, for his education in medicine. I remember father's telling us about his stay at Heidelberg. He said the first year was mostly a round of singing, drinking, and dueling, but after that it was downright work and study.

"After his degree in medicine was conferred, he immediately directed his course to that 'land of lands,' America. He arrived in New York City with only three dollars in his pocket but was most fortunate in obtaining a position in a hospital to tide him over, for a time, with food and shelter included. Throughout his stay in New York he continued to yearn to see America. After accumulating sufficient funds he proceeded west as far as Denver, Colorado. There he joined a group of gold prospectors who were bound for South America. He mentioned one experience in which, snowbound in the southern Rockies, with food unobtainable, they resorted to digging out hibernating rattle snakes, which when properly prepared were found to be palatable and adequate for such an occasion.

"Finally, the trip reached a point near the border of South America, from which they

began their return. As they journeyed north, rumors of war between the states was heard; and on entering, they found it already in progress. It soon dawned on my father that the group he was traveling with was all on the side of the Confederate Army. This did not appeal to him, and when they arrived at a Confederate enlistment barracks, he decided to seek the Union Army, in which he enlisted as a surgeon and served in that capacity. After his discharge from service he practiced for a time at Galesburg, Illinois, and from there came to Freeborn County, locating at Freeborn and later at Albert Lea. He married Miss Amelia A. Dunn of Freeborn on May 15, 1867. Seven children were born to them, of whom two now survive: a daughter, Mrs. Florence Crowley, Glendale, California; and a son, Horace A. Barck of Albert Lea. Dr. Barck died at Albert Lea, March 27, 1913. His wife died at Freeborn, May 6, 1894."

From a letter written to his fiancee, dated Aug. 1, 1862, the following is quoted:

"You are probably somewhat astounded to hear of me in Virginia; but such is nevertheless the case. I am here serving my (our) country in capacity of surgeon in Capt. Phillips' Battery E., Reg. Light Artillery, Ill. Volunteers. Our present camp is one-half mile west of Martinsburg. I write these lines under a large oak tree, and in every direction I see the footprints of war. We are only five miles from the enemy's pickets. A few days ago, a charming lady, a secessionist, spat on an officer of the Twelfth Illinois Cavalry. The provost marshall ordered two men with an American flag to take the lady to headquarters. They did so, and when there she was asked to beg the officer's pardon. She refused and the Colonel then ordered her to be wrapped up in the flag and sent to jail. You should have heard her scream then, 'Take that accursed thing off me! that flag of pirates, of d—m Yankees,' and such. It quite maddened me to hear the thing talk, and I never felt more like dispatching a mortal to the care of 'Charon' than then."

It is difficult to correlate the activities of Dr. Barck. Exact year of emigration to America, how long he practiced in New York, when and how long his ventures were into the West and to South America, how long he practiced in Galesburg, Illinois, and the exact date of location at Freeborn are not known. From his letter to his fiancee, August, 1862, it seems evident that he was at Freeborn sometime prior to that date. We do know that he was a well-educated, well-qualified physician and surgeon, a gallant gentleman, gracious and willing in his service to his pioneer friends and patients, and that he died at age eighty-one with the honor and profound respect of a thankful community.

HISTORY OF MEDICINE IN LE SUEUR COUNTY

Under "Minnesota" the *Encyclopedia Britannica* makes the following statement: "A little north of the center, the state is traversed from North-West to South-East by the extensive forest known as the 'Big Woods'." At the time when the first doctors came into the territory, five-sixths of Le Sueur County lay in this Big Woods area, leaving only the Le Sueur and Ottawa prairies clear. In contrast to Le Sueur County, the County of Nicollet, across the Minnesota river, was primarily prairie land with few obstacles between the doctor and his patient.

Conditions were far from easy for pioneer doctors in Le Sueur County. There an early practitioner was often forced to set out on horseback with a load of bulky medicines in his saddle bags and wend his way slowly—never more than two or three miles an hour—along narrow trails through nearly solid woods. After several hours he would eventually arrive at some distant, one-room log house, warmed by a fireplace and lighted by a wick wound around a stick projecting from a holder

Most of the material in this report is provided by a writer who wishes to remain anonymous. Additional notes have been furnished by Dr. H. B. Aitkens of Le Center, Minnesota.

containing grease. These conditions prevailed until, in the process of time, roads were built and wheeled vehicles could be used. But even then the mode of travl was determined by the conditions to be found on the most difficult part of each particular journey.

Medical service to the early inhabitants of the Minnesota valley and surrounding territory was conditioned by three factors: first, the terrain and the climate; second, the settlers themselves, their impermanency and financial condition; and, third, the stage of development medicine had reached. Of these, the latter was the most important.

In 1850 medical science was an infant in the cradle. There was a small body of scientific fact which was presented in lectures to medical students, but there were no such diagnostic procedures as blood counts or test meals, and the chemical analysis of urine had barely started. The clinical thermometer was not in use, although it had been invented; and the stethoscope was still new and crude. A microscope had not yet been brought to this country from England, and when it did make its appearance, there was normally about one for every 100 medical students.

When an advance was made in medicine it was likely to remain local for some time, in contrast to the present day when the news of medical discoveries is flashed around the world almost immediately. When Semmelweiss in 1847 made his notable advance in midwifery, his discovery hardly spread outside of the hospitals in Hungary where he practiced. It was not until after 1883 that Lister first heard of Semmelweiss. Lister's own great contribution, his work on antisepsis, began in 1864; his first publication on it was made in 1867. Scotland, his native country, was slow to take up Listerism and was preceded in its adoption by Germany, which held great festivals in Lister's honor in Munich and Leipsig in 1875 and by France. In America, a rising young surgeon, W. W. Mayo, was first to adopt Lister's method of antisepsis in 1883.

"Fever", "liver complaint", "lung disease", "inflammation", "kidney trouble"—those were common diagnoses. Anatomy at this time was indeed objectively being taught by dissection of the body, but without investigation into the cause of death. Any bedside instruction was postgraduate, from a preceptor. Chloroform was a few years old, fortunately. The knife was not yet widely used as a therapeutic instrument. Face to face with an illness, the doctor had to proceed empirically to do his best, using means that had seemed to be of benefit in what appeared to be a similar case. An old-timer said of an early doctor that "he was a good nurse"; and perhaps, unwittingly, that was a compliment. Doctors were not, as a matter of fact, highly esteemed; they were, in many cases, called only as a last resort—partly, perhaps, on account of expense.

The absence of legal requirements and the remoteness from medical education facilities combined to work additional disadvantages to the early practitioners and the pioneer residents. It was not until 1883 that adequate legislation regulating the practice of medicine was passed by the state legislature. A previous attempt in 1869 to write a law protecting the people of Minnesota from charlatans and quacks was a failure and was repealed. Vital medical training was virtually unattainable; at least it was not to be had without the expenditure of great sums of money for expensive medical courses in the East.

Since there were no railroads, the population centers in the Minnesota Valley were on one side or the other of the river, which served as the main thoroughfare. In 1860, the total number of persons living in Le Sueur county was a little more than 5,000, and at that time, just as for the next fifteen years or so, the tendency for the inhabitants to settle along the river made it possible for physicians to reach a large part of their scattered patients by crossing in the ferry or in a canoe.

Physicians in one county often attended patients in the other county, that is, when the condition of the river permitted. At times when the river was impassable, as it was at certain seasons, medical needs in Nicollet were looked after entirely by St. Peter physicians and Le Sueur County by Le Sueur physicians.

Obstacles such as storms and blizzards, deep snow and impassable trails could be overcome by determined men. The big blizzard of 1873, credited with taking at least forty lives in Minnesota and Dakota and causing hundreds of cases of frozen limbs, as recalled by Dr. Asa W. Daniels, pioneer practitioner in Nicollet County who died in 1923, provides a typical picture of what a blizzard could mean to an early doctor. According to Dr. Daniels, the morning of the blizzard was warm; the snow was melting and there was a heavy fog. In the forenoon, he had visited Cleveland, Le Sueur County, and at two in the afternoon he proceeded to New Sweden, fifteen miles away. Arriving at his destination, the farm home of a Mr. Peterson, Dr. Daniels merely blanketed his horses instead of putting them in the barn because the day was so warm. He had not been at the Peterson home for more than twenty minutes when a roar of wind shook the house, alarming the whole household. The doctor immediately started out for his home in St. Peter with the wind at his back; but the storm became more and more severe until the horses were a mere blur in the driving snow and road dirt. He was almost to the village when he was forced to let the horses go. Fortunately, after struggling through countless drifts, he stumbled upon a fence which he was able to follow to a farm house. There he found that the farmer was still in town and that he and the farmer's wife would be obliged to saw wood to keep from freezing. He slept in the attic with only his fur coat for a cover and with the snow drifting in through the many cracks. For three days he did the chores until the farmer could return.

A Le Sueur County doctor had a similar experience. The husband of a sick woman came into the village to summon him. The doctor went immediately to his patient while the husband was delayed in town, getting supplies. A severe storm arose so that the husband was unable to return home; and for three days the doctor had to keep the farm stoves going by working with the bucksaw and had to care for the farm animals and do the other chores.

Dr. H. B. Aitkins of Le Center recalls having to attend an obstetrical case five miles outside of town during a snowstorm. The farmer called for him with a team and bobsled, but on the way the sled had to be abandoned, and the doctor, with his heavy obstetrical satchel, and the farmer continued on horseback until one horse was exhausted and the trip had to be completed with only the remaining horse. The birth was delayed and, since he was afraid that if he left the house he would be unable to return, the doctor remained at the farm during the entire blizzard.

The poverty of the early settlers was for the most part extreme; hence payment to physicians was very uncertain. Government terms for homesteading were occasionally changed, and at one time a jest was current to the effect that the government was willing to bet 160 acres of land against a small payment that one could not live on the land for five years without starving to death. Most settlers eked out a living clearing forest land, for which wealthy persons would pay six dollars an acre; making maple syrup, selling muskrat or mink hides, catching fish, killing prairie chickens, and gathering ginseng. This latter activity of digging the ginseng root and selling it to dealers proved very profitable for some. The root—which actually had no pharmaceutical or therapeutic value—because of its resemblance to the body of man, that is, in the form of a fork, with an occasional intermediate rootlet, led the Chinese to attribute to it the power of restoring virility to the aged and impotent. It was because of this belief that many an early physician was indebted to the Chinese, who paid cash for the root of ginseng and thus kept early

physicians' families from starving. It has been recorded that at one time the village of Henderson had one doctor, one baker and *seven* ginseng dealers.

Dr. Otis Ayer had the distinction of being the pioneer physician in Le Sueur County. About 1856 he arrived in the village of Le Sueur, the first settlement in the county, situated on the Minnesota river. During the New Ulm massacre* Dr. Ayer was one of the physicians who cared for the many wounded. He was a graduate of Dartmouth and Jefferson Medical college. A physician of the old school, he was dignified, able and devoted to his work. These qualities made him one of the outstanding physicians of this part of the country. Dr. Ayer practiced in Le Sueur village until his death.

Four miles west of the village Dr. W. W. Mayo, father of Drs. W. J. and C. H. Mayo, settled, shortly after Dr. Ayer. In 1859 he moved into the village and built a comfortable house, according to pioneer standards. Two years later he went to New Ulm as a surgeon for the United States Army, and early in 1863 he moved to Rochester where he founded the famous clinic.

Another early resident was Dr. Andrew J. Rutan, who represented the county in the first state legislature (1857-1858). At the time he was living in Lexington township, but in 1862 he moved to Le Sueur and practiced medicine in the village for about a year. There is no record of any other physician making his home in Le Sueur County during the fifties.

Dr. A. C. Smith practiced in the town of Le Sueur during the early sixties. A newspaper note gives us the information that the doctor helped to bury the Indians killed at Scotch Lake in 1862. Some years later he moved to Cleveland. In 1863 J. L. Whipple opened an office in Cleveland. After the war S. B. Umphrey came to Cordova. He practiced in the county for many years. In 1865 the first drug store was opened by H. H. Mackstroth, who also practiced medicine to a limited extent during the sixties. Other newcomers about this time were F. Vasterling (who died at the age of ninety in 1905), A. F. Randall, H. Davis, J. Horst and W. H. Woods. In 1869 James Holmes, a graduate of Jefferson Medical college, and S. M. Morrison, one of the many "botanic" physicians then popular, came to Le Sueur.

It is probable that the county officials began to appoint physicians to care for the poor early in this decade. The first record we have is the appointment of S. B. Umphrey.

In November, 1869, Dr. Umphrey, together with Drs. A. F. Elliott, R. Randall and H. Davis, gathered at Cordova to form a county medical society in order to meet the requirements of an act passed by the state legislature "to protect the people of Minnesota from empiricism and imposition in the practice of medicine and surgery."† The law was a much needed one in the state, since the more isolated the practitioner and the greater the difficulties of practice, the greater was the need for good preliminary preparation. At the same time, as noted previously, there was less likelihood that these requirements could be met, for during the sixties and seventies, medical and surgical education at all worthy of the name was to be obtained only by attending Eastern medical schools, which cost a great deal in time and money.

The state law requiring that a man have either a diploma from a medical school or a certificate from a medical society in order to practice medicine in the state was repealed the year following its approval, and it was not until 1883 that an adequate measure was passed by the state legislature. The provisions of the Act of 1869 did not apply to anyone who had been in practice for five years prior to its passage. The

*See Medical History of Brown County.

†Chapter 41, Laws of 1869, approved March 9, 1869, and repealed February 24, 1870.

county medical society, formed in compliance with the state law, is peculiar in that it constituted itself a local examining board for physicians. Lack of further mention of the society in the local newspapers leads one to believe that its life was a short one.

The articles of incorporation of this Medical and Surgical Society of the County of Le Sueur are here given:

I

Place of Location: Cordova.

II

Purpose: The advancement and improvement of the members thereof in the sciences of medicine and surgery, and in the practice thereof, and the various subjects appertaining or germane thereto, and by mutual examination and interchange of opinion and experience among the members thereof touching the said sciences and the practice thereof, at stated or other meetings of the members of the corporation; and to instruct and examine persons pursuing the study of the said sciences of medicine and surgery, and the granting of certificates of qualification to practice medicine and surgery or either of them to persons of good moral character, who shall upon full examination be deemed qualified to practice the same according to the provisions of the act entitled *An Act to Protect the People of Minnesota from Empiricism and Imposition in the Practice of Medicine and Surgery,* approved March 9, 1869.

III

Any person, possessing the qualifications prescribed by the said act to practice medicine or surgery or any person of good moral character who is pursuing the study of medicine and surgery or either of them with intent to qualify himself for the practice thereof and to engage therein, may become a member of this corporation by signing the articles and paying the sum of five dollars.

IV

Examinations of persons applying for certificates of qualification to practice medicine and surgery or either of them, shall be made at a stated or special meeting of the members of said corporation, and shall be conducted in such manner as the members present direct. When so granted, such certificate shall be signed by the president or vice president, attested by the secretary and sealed with the corporate seal of this society.

V

The officers of the corporation are: A. F. Elliott, president; R. Randall, vice president; S. B. Umphrey, secretary; H. Davis, treasurer.

Dated: 20th of November, 1869.

Recorded: 24th of November, 1869, 4 P.M.

(1870-1879)

Among the physicians who practiced in Le Sueur County for short periods during the first years of the seventies were M. W. Scott, Guy Daly and D. B. Collins. Isaac Cosner and C. Hoberg of Nicollet County often extended their practices into Le Sueur County. C. J. Spratt, a graduate of Bellevue hospital and college, came to Le Sueur in 1870 and left in 1883. George D. Swaine also practiced there for about ten years (1872-1882). E. P. Case, a prominent physician in the county and an early member of the state medical association, opened an office in Waterville. Among those who came a few years later were T. W. Hammond, H. C. Leonard; J. A. Scammon, J. S. Seely, J. W. Dal, W. G. Goffe (1881-1884) and Lambert Laurens. Few of these men remained permanently. In the fall of 1879 the town of Le Sueur had a total of six resident physicians.

Throughout these years there were occasional deaths from typhoid fever. In Ottawa there were several mild cases of smallpox in 1870. Two years later Mackstroth and Sons' Drug Store was advertising smallpox vaccine, apparently as a result of a number of cases of smallpox in neighboring counties.

Although the local papers seem not to have mentioned it, we learn from St. Peter, across the river, that scarlet fever was raging in Le Sueur in the spring of 1877,

and that a number of cases had proved fatal about twenty-four hours after attack. In 1878 an epidemic of mumps struck the children of Lexington township, and a few months later there was a general epidemic of cholera morbus. Diphtheria prevailed in Cleveland and Ottawa in 1879.

Dr. Otis Ayer, who regularly attended meetings of the Minnesota State Medical Association since its founding, served as its president in 1878. Dr. E. P. Case, another local physician, became a member at that time.

Among those who served as county coroner were Charles J. Spratt (1872), S. B. Umphrey (1873, 1877, 1878) and J. S. Seely (1879). By the end of the period the office of county physician was awarded to lowest bidders in each of the five commissioners' districts. Salaries usually ranged from about fifty to eighty dollars. Sometimes physicians were not paid regular salaries but were paid for each separate call. In 1879, for example, E. P. Case agreed to act as county physician at fifty cents a visit and thirty-five cents a mile, one way, and to furnish medicines himself. Occasionally other physicians also turned in bills for work done for the poor.

During the later years of the period there appeared from time to time in the newspapers articles concerning public health. Dr. H. C. Leonard, for instance, had an article on diphtheria in which he quoted Dr. Charles Hewitt, secretary of the Minnesota State Board of Health, urging people to use stone or brick curbing rather than wood so as to assure safer drinking water. Another of Dr. Leonard's articles, entitled *Homeopathy versus Alleopathy,* endeavored by means of very queer statistics to prove that the death rate for the most common diseases was 100 per cent using the latter treatment and far less under the former.

An ever-increasing number of physicians came to Le Sueur County during the eighties, and the short periods of time that many of them stayed give evidence that the population was not sufficiently large to support them all. Collections were bad, owing to the poverty and transiency of many of the inhabitants. In many instances remuneration for services came in the form of farm products. One of the druggists in the western part of the county said that for seven years his prescription files averaged one prescription in seven days and that drugs were generally bought in five-cent lots.

There was probably an average of twenty to twenty-five practitioners in the county in any given year during the period. At one time (1884), there were ten physicians in the town of Le Sueur. Among the newcomers in the early days of the decade were W. W. Clark, William Dodge, H. Mager, J. A. Reynolds, H. E. Lucas, C. P. Dolan, William Netter, and J. G. Bemis. W. H. Fisher, a homeopath and his wife, Ann, practiced in Le Sueur for a number of years. Franklin A. Dodge, a graduate of the University of New York City, opened an office in 1886 and became one of the prominent physicians in this part of the state.

(To be continued in the April issue.)

President's Letter

RURAL HEALTH — WHOSE PROBLEM?

Too often we, as a nation and as individuals, are more concerned about our illnesses than our health.

The sharpest application of this truism is, perhaps, found in the rural areas of the United States where medical care is admittedly uneven in distribution and where preventive medicine and safety programs have to combat staggering odds to chalk up semi-satisfactory records.

Who's to blame for the delayed progress of rural health? The farmers? In part. The doctors? To a degree. The medical schools? They too must share the responsibility, as must all of the organizations designed for and including rural people.

Certain it is that the Washington planners who would force our free economy into the straitjacket of socialism are looking hopefully at rural health statistics for justification of such drastic action. For example, posing as a textbook, a volume called *Rural Health and Medical Care* has recently come off the presses. Depression-year statistics and typical "Americans can't afford health" propaganda have been blended together with the help of such medical-muddlers as Drs. Isidore S. Falk and Michael M. Davis and, from the Social Security Administration, Margaret Klem.

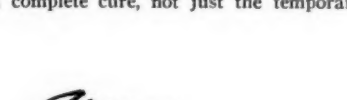
This is typical of what we observe constantly and may continue to expect from the Ewing coterie. After painting the rural health picture in blacks and greys, they attempt to show how "free medical care" would brighten the rural environment.

Scientific medicine, public health workers, farm groups do not claim such a guaranteed cure-all. Experience and observation have proved that there is no one answer to the rural health question, just as there is no one cure for cancer. But the answers will be found in both cases by the scientifically tested method of pooling the results of experimentation and continuing to build on a proved foundation.

How this theory works is evidenced by the rural health conferences sponsored annually by the American Medical Association's Committee on Rural Health. More than 600 leaders of all groups and organizations which interest themselves in bettering rural health met February 4 and 5 at the Palmer House, Chicago, and discussed every phase of farm welfare, from increasing soil fertility to securing more doctors for rural areas.

It was generally agreed that the voluntary way is the desirable way and plans were considered for extending Blue Cross and Blue Shield coverage and assisting other forms of medical insurance. Inducing doctors to choose rural practices, too, was deemed a joint responsibility; medical schools must encourage rural migration; farm communities must aid in obtaining the facilities for practice and in making the rural environment satisfactory for the doctor and his family. Safety and preventive health programs will continue as focal points in the objectives of many organizations.

By working together, erasing duplication and going toward preconceived goals, we will solve the rural health problem; we will have a complete cure, not just the temporary absence of symptoms under socialistic anesthesia.



President, Minnesota State Medical Association

Editorial

CARL B. DRAKE, M.D., *Editor;* GEORGE EARL, M.D., HENRY L. ULRICH, M.D., *Associate Editors*

THE BIRTH OF MEDICAL FREEDOM

THE publicity campaign that the medical profession is initiating to bring to the people of the United States the advantages of private practice over government-supplied medical care, so that they through their representatives in Congress may chose intelligently, may well determine the most momentous political issue of our generation. The question resolves itself into essentially a choice between compulsory government insurance, with the government providing all medical care through taxation, and voluntary health insurance, with the maintenance of the American system of free enterprise. Government medicine is socialism, whereas voluntary health insurance preserves the freedom of the individual. The socialization of medicine has been the initial step in other countries sought by the socialists in the establishment of a completely socialistic government. For this reason, the medical profession is spearheading a fight against socialism and should have, and doubtless will have, the support not only of allied groups such as the dentists, druggists, hospitals and pharmaceutical houses, but of all private industry. The socialists in our government and labor unions are obviously adopting the war slogan of divide and conquer. If the citizens of our country who believe in free enterprise wish to prevent the ultimate complete socialization of our economy, it behooves them to join the medical profession in opposition to this movement.

The enormous growth of hospital and medical insurance in our country the past few years indicates the belief on the part of our citizens that insurance is a means of meeting the cost of sickness. There is little indication of any great demand on the part of the people for the government to take over their medical care. The demand comes from a comparatively small group of government officials in Washington and a few labor union officials who are socialists. The various Wagner-Murray-Dingell bills have been written by employes of various government bureaus in Washington. The very preamble of the recently submitted bill is misleading by inference when it states that this national health program is necessary to promote personal relationships between physicians and patients; to promote more effective co-ordination among general practitioners, specialists, nurses and hospitals; to enable patients to have more effective free choice in selecting their physicians; to provide adequate health services consistent with the highest standards of quality, to be administered locally in accordance with American ideals of democracy and individual freedom. The medical profession maintains that the proposed bill would do just the opposite of all this.

Already there is evidence that the proponents of the bill are not hesitating to smear the medical profession. Oscar Ewing, Chief of Social Security, has already accused the medical profession of selfishness in opposing the bill and of raising money for the most powerful lobby in Congress—both misstatements. He insists on distorting the statistics as to rejections in the draft to indicate the inadequacy of medical care under our present system.

The fight is on. We, as a profession, are fighting for our independence. It is worth while fighting for and is worth much more than the twenty-five dollars we have assessed ourselves. Those who do not think this freedom is worth the price, let them stay out. There may be some question as to the constitutionality of an assessment of this amount. Let those who want to haggle over the point do so, but let those who want to preserve the institution of private practice send their checks, made out to the American Medical Association, to our State Association office.

The preliminary announcements of the methods of publicity to be used in our National Education Campaign are impressive. Emphasis is to be placed on educating the people. The contact of doctors with their patients is to be stressed, and leaflets will be supplied for inclusion with monthly statements. Similar material will be furnished for allied professions and industries. Business and civic associations, farm, fraternal, religious and veterans organizations will be asked to help.

The question has been raised by some newspa-

pers as to whether they can expect paid advertisements. Those in charge of the campaign have decided it is inadvisable to undertake any broad advertising campaign in the newspapers or over the radio ostensibly against a piece of legislation. When it is realized that a quarter page advertisement in each of the 12,000 daily and weekly newspapers in the country would cost a half million dollars, the futility of such a program becomes apparent. It would likewise be a mistake to patronize a selected few newspapers. Publicity material, however, will be mailed to the newspapers, many of which consider our cause their cause.

If the profession fights to a man and each does his part, with the help of those who cherish their freedom from bureaucratic control, the battle will be won.

OLMSTED-HOUSTON-FILLMORE-DODGE SUPPORTS AMA SOCIALIZED MEDICINE FIGHT

FIRST official county response to the American Medical Association's assessment request has come from the Olmsted-Houston-Fillmore-Dodge County Medical Society. Checks totaling almost $14,000 have been relayed to the state office.

Ninety-eight and seven-tenths per cent of the staff of the Mayo Clinic and Foundation have given their support to the American Medical Association's educational campaign to defeat compulsory health insurance. Additional staff members, now ill or absent from Rochester, will, it is anticipated, make a comparable response to the AMA's appeal.

It is stimulating, indeed, to observe this demonstration of medical society unity, particularly in view of recent newspaper reports which insinuated that discord was arising on the question of participation in AMA plans.

"The members of the staff and the fellows of this institution are well aware of the efforts of the American Medical association to devise methods for distributing medical care more widely by means of voluntary prepayment plans," stated Arlie R. Barnes, chairman of the Clinic's Board of Governors, and Victor Johnson, director of the Foundation, "and, almost unanimously, they desire to support these efforts.

"It is to be hoped that such methods for extending medical care as might be devised by the American Medical Association will safeguard or even improve the present high quality of medical service, and that the program will be such as to enlist the continued wholehearted support of virtually all the physicians of the country. It is highly desirable that physicians present a united front in efforts to improve the distribution of medical care."

Earlier publicity on what an official of the local medical society refers to as "the sincere remarks of a small minority," engendered some misunderstanding about the position of the Clinic and Foundation staff on the AMA anti-socialized medicine program. Prompt response to the AMA assessment request has established, beyond doubt, Mayo physicians' belief in the methods to be employed by the American Medical Association in maintaining freedom of medicine.

G.A.E.

NARCOTIC PRESCRIPTIONS

THIS ISSUE contains an article by Mr. A. M. Bangs, District Supervisor of the Bureau of Narcotics in Minneapolis, on the subject of telephoned narcotic orders. The filling of narcotic prescriptions has been a thorn in the flesh for physicians and druggists alike ever since the present regulations were established. There need be no difficulty when the physician telephones a prescription from a residence and leaves a prescription there to be picked up by the druggist on delivery. If, however, he neglects to leave the prescription, the druggist is not allowed to leave the medicine, and trouble ensues. Also, if a physician, receiving a telephone call from a patient requesting a prescription, calls the druggist and promises to send him the prescription and then fails to do so, there is trouble. If the need is urgent, the druggist is allowed some leeway in sending the drug before he receives the prescription but he must have the prescription for his files. So it behooves the physician to carry out his part in providing the prescription and not to vent his ire on the druggist who did not make the law but is periodically checked to see that he is obeying it.

The federal law applies only to narcotics and not to the barbiturates. Our state law is more stringent than the federal. The only narcotic allowed by the state without a prescription is cough mixture containing 1 grain or less of codein to the ounce. Prescriptions must be used for the barbiturates but orders for refills may be given over the telephone.

As long as there are individuals who lack self-control when it comes to the use of narcotics and barbiturates, laws to control consumption will be

necessary, not only for the welfare of the individual but for society at large. Although regulations seem rigid and bothersome, they have proved necessary in the control of these drugs, as most physicians know.

DIPHTHERIA

IN 1948 there were only 129 clinical cases of diphtheria reported in the state, with seventeen deaths. This is the lowest record in history. This does not mean, however, that the profession should feel complacent over the progress made. Diphtheria is one of the few diseases which can be completely controlled, and there should be no relaxation on the part of the profession or the public in the immunization program.

As a result of the comparative rareness of the disease today, many recent graduates have never seen a patient with clinical diphtheria. Diphtheria, in spite of its rarity, should always be borne in mind when the patient complains of a sore throat. The presence of a dirty gray membrane which, though characteristic, is not always present, should result in the taking of cultures; and if the lesion strongly resembles diphtheria, antitoxin should be given at once instead of waiting for the report from the culture.

The incidence of diphtheria varies from year to year, and local outbreaks are common. It behooves the profession to be diphtheria-minded if the occasional case is to be detected promptly and the spread of the infection prevented.

DOCTORS FOR ARMED FORCES

A FEW WEEKS ago a letter was sent by Dr. R. L. Sensenich, president of the American Medical Association, to approximately 7,000 physicians under the age of twenty-six, strongly urging them to volunteer for military service. Some 900 postal cards which accompanied the letters were returned, and about 500 requests for application forms for commissions have been received. This is not enough to meet the urgent need. About 2,000 doctors now on active duty will be released within the next few months, and more than this number of new enlistments will be needed, not only to replace those who will leave the service but to care for the expansion of the armed forces provided for by the Selective Service Act of 1948.

The names of those doctors under the age of twenty-six who have not responded to Dr. Sensenich's letter have been sent to the secretaries of the state medical associations, and personal contacts are being planned through county societies. If enough recruits can be obtained from this group under twenty-six, the necessity of a draft of the profession, a step which has never yet been necessary, will be obviated. The financial compensation of medical officers today is especially attractive. This, added to the stimulus of patriotic duty, should produce the desired response.

The drafted boys are doing their part under compulsion, it is true. Their medical needs must be provided for, preferably by volunteer enlistment of doctors or by draft. Patriotism is not limited to the emergency of war.

PRINCIPAL ORGANIZATIONS PROMOTING COMPULSORY SICKNESS INSURANCE

In order that our readers may know the principal organizations promoting compulsory sickness insurance and their personnel, we are listing them:

The Committee for the Nation's Health is located at 1790 Broadway, New York City. Dr. Channing Frothingham is chairman of the committee, and Michael M. Davis is chairman of the Executive Committee. Included on the committee are: Mrs. Eleanor Roosevelt, Gerard Swope, David Saranoff, Mrs. Gardner Cowles (a staff member of *Look* Magazine), Abe Fortas (a law partner of Thurman Arnold), and the presidents of the A. F. of L. and the C. I. O. The membership consists of some 2700 persons, 22 per cent of whom live in New York, and less than 8 per cent of whom are physicians.

The Physicians Forum is a group of physicians also working for compulsory government insurance. Dr. Earnest Boas of New York is chairman. According to Dr. Boas' testimony in Congress, the Forum has about 1000 members, of whom almost 600 are located in New York State and about 100 are located west of the Mississippi.

The Committee of Physicians for the Improvement of Medical Care, according to Dr. John Peters, consists of some forty physicians, most of whom are in the New York-New England area. Dr. Edward L. Young of Boston is chairman, and among the other officers are: Dr. Channing Frothingham, Dr. John Peters of New Haven, Dr. Ernest Boas of New York, and Dr. Dean Clark of New York.

The Committee for the Research of Medical Economics, also located at 1790 Broadway, New York, has as its chairman, Michael M. Davis.

The name of Dr. Boas appears on the membership of all four organizations; Dr. Peterson, on three; and Dr. Frothingham, also on three. There is an apparent interlocking of directors and members in the four organizations.

TELEPHONED NARCOTIC ORDERS

A. M. BANGS
District Supervisor, Bureau of Narcotics
Minneapolis, Minnesota

The Harrison Narcotic Law, as re-enacted in the Internal Revenue Code, is designed to direct the manufacture and distribution of narcotic drugs through medical channels to consumption for medical purposes only. These are the fundamental, underlying principles and objectives of the Federal Narcotic Law and the Minnesota Uniform State Narcotic Act. The related regulations designed to achieve this are clear and necessary elements in the suppressing of addiction to narcotic drugs.

Despite the clearness of the law and regulations, and the fact that they have been in effect for about thirty years, we still find entirely too many narcotic prescriptions in drug store files which were improperly executed by the issuing physician.

We also find a great number of notes and unsigned pieces of paper in drug store files that reflect the filling of telephoned orders for narcotic drugs. (Unless a prescription is properly written and signed, and for a legitimate purpose, *it is merely a piece of paper).*

Almost every day we receive complaints from druggists about physicians insisting by telephone that they supply patients with narcotics without a prescription.

This places the law-abiding pharmacist in an embarrassing position because, if he supplies the narcotic drugs without receiving a prescription first, he is definitely violating the law. If he shows reluctance to comply with the physician's telephoned request, the physician often becomes very indignant, and often tells the pharmacist "If you won't take it, I'll call a druggist who will," and in many cases is able to make his threat good because there are druggists, unfortunately, who will accept and supply narcotic drugs on telephoned orders.

The practice of telephoning narcotic prescriptions indiscriminately has presented a real problem of diversion of narcotic drugs to addicts.

The Bureau of Narcotics has encountered a great many instances where a drug addict telephoned a druggist, representing himself to be a physician, and caused the druggist to deliver narcotic drugs which were used only for the gratification of the addict and his associates.

By telephoning the druggist and representing himself as a physician, an addict recently obtained more than one thousand pantopon and morphine tablets from sixteen different drug stores on forty-five different occasions. A large portion of the drugs thus obtained were sold by the addict to other addicts at $3.00 to $5.00 per tablet. This demonstrates that if the telephoning of orders for narcotic drugs were permitted, much greater diversions would result.

The Physician Is Responsible

The Bureau of Narcotics and its field agents want to co-operate in every possible way with physicians and druggists in relation to the observance of the laws governing the dispensing of narcotic drugs, for we have a law to enforce and it is our duty to enforce it.

The Law Applies with Equal Force to Physician and Druggist

The physician is the party of original responsibility. There is no good reason why he should not obey the law and write and sign all of his prescriptions for narcotic drugs. If he does not, the conscientious druggist should absolutely refuse to accept his telephoned narcotic orders or improperly executed prescriptions for narcotic drugs.

Violations cannot be tolerated and the law must take its course when they are found.

Formal Requirements for Narcotic Prescriptions

1. The furnishing of narcotic drugs pursuant to telephone advice of practitioners is prohibited, whether prescriptions covering such orders are subsequently received or not, except that in a genuine emergency a druggist may deliver narcotic drugs pursuant to a telephone order, provided the druggist is supplied with a properly prepared prescription at the time of delivery.

2. A physician must not use his prescription form to obtain narcotic drugs for general office practice. Narcotic drugs desired for general office practice are obtainable on official order form from a qualified manufacturer or wholesale dealer. An order for narcotic drugs for general office practice, written on a prescription blank, is not a lawful prescription within the meaning of the law and can have no effect to validate the sale which is illegal.

3. A prescription for narcotic drugs shall be dated as of and signed on the date when issued and shall bear the full name and address of the patient, and the name, address, and registry number of the practitioner. A physician may sign a prescription in the same manner as he would sign a check or legal document as, for instance, J. H. Smith, John H. Smith, or John Henry Smith. Prescriptions should be typed or written with ink or indelible pencil; if typewritten, they should be signed by the practitioner. The refilling of a prescription for taxable narcotic drugs is prohibited.

4. A prescription, in order to be effective in legalizing the possession of unstamped narcotic drugs and eliminating the necessity for use of order forms, must be issued for legitimate medical purposes. The responsibility for the proper prescribing and dispensing of narcotic drugs is upon the practitioner, but a corresponding liability rests with the druggist who fills the prescription.

5. An order purporting to be a prescription issued to an addict or habitual user of narcotics, not in the course of professional treatment, for the purpose of providing the user with narcotics sufficient to keep him comfortable by maintaining his customary use, is not a prescription within the meaning and intent of the act; and

(Continued on Page 330)

From the Bureau of Narcotics, 314 U. S. Court House, Minneapolis, Minnesota.

MEDICAL ECONOMICS

Edited by the Committee on Medical Economics
of the
Minnesota State Medical Association
George Earl, M.D., Chairman

RURAL HEALTH ISSUE MORE CRITICAL NOW

Physicians are finding that the illnesses of their rural patients are being complicated by a new set of symptoms, labeled variously "compulsory health insurance," "government medicine" and "sickness insurance."

The rural population is looked upon by the socializers as a vast and fertile field for the sowing of collectivist ideas. The first crop they wish to reap is a system of governmentally administered medical and hospital care.

Fortunately, rural people for the most part are individualistic in character; agriculture is basically an illustration of private enterprise at work. Through such organizations as the Farm Bureau, they strive for voluntary co-operation to further common goals; through Blue Cross, Blue Shield and commercial policies, they have provided for the financial emergencies of sickness; by co-operative thinking they are seeking to solve many another problem of rural life which involves health and welfare.

More than 600 leaders from farm and health organizations met February 4 and 5 at the Palmer House in Chicago to phrase answers to the question, "How can we achieve better health for the people of rural United States?"

Points of view represented at the session, sponsored by the AMA's Committee on Rural Health, diverged from medical schools to milk producers' associations; but the concept of problems and the suggestions for solutions to those problems did not diverge so widely.

Occasionally a familiar phrase from the Ewing fantasy echoed through the meeting—"325,000 die needlessly every year," "medical care is beyond the reach of too large a segment of our population," "a system of compulsory health insurance would guarantee an even distribution of medical care."

But more typical was this comment:

". . . these conferences on rural health have set the pattern for people to get together to discuss openly what they should do to provide for their own needs and find ways of solving their own problems," pointed out Aubrey D. Gates, associate director of the Arkansas Agricultural Extension Service. "If a satisfactory program for rural health facilities is not worked out by the people themselves—both the lay and the professional groups—it is a fairly safe assumption that one will be developed by an Act of Congress to be administered by the federal government. To me, this is socialized medical care of the most damnable sort."

Agreeing with Mr. Gates, Mrs. Margaret K. Taylor of Washington, educational director of the National Co-operative Milk Producers Federation, added:

"We believe that improvement of community rural health can be made through a constructive program of education and service such as that being conducted by the American Medical Association through its Committee on Rural Health."

The Milk federation, a marketing organization for dairy farmers in forty-seven states, is conducting a four-point program for improved farm health:

"1. Encouragement of prepaid medical, hospital and dental care on a voluntary basis;
"2. Federal aid to improve health standards through education and research;
"3. An expanded school lunch program;
"4. Support of federal-state programs for the control and eradication of bovine diseases.

Distribution of medical care on a cold, matter-of-fact basis cannot be a success, the conference was told. Equalizing medical care by moving doctors about like chessmen does not take into consideration the doctor-patient relationship.

Said Dr. Ward Darley:

"Medical care, no matter how superior it may be from the scientific standpoint, cannot be truly effective unless the patient-physician relationship is such as to permit the physician to make the maximum use of his own personality as an agent of comfort and therapy."

Dr. Darley, executive dean of the health sciences and services, University of Colorado School

of Medicine, added a few comments on specialization, summarizing: "While this trend has added to the cost of medical care, as the costs of medical care have increased, so have our survival rates."

Farm safety and diseases whose symptoms and aftermaths are shared indiscriminately by mankind and animals came in for consideration by the conference.

Cautioning against undue complacency about the control of these man-animal diseases, Dr. H. B. Mulholland of Charlottesville, Virginia, said, "Education of farm people in the fundamentals of transmission of these diseases in animals and man is paramount, and constant vigilance must be maintained, even though some of them are seemingly well under control, else they will break out afresh."

Accident prevention was also accorded a position of prominence in the discussion groups. "Farm accidents are taking an annual economic toll of nearly one billion dollars," claimed Maynard Coe of Chicago, director of the farm division, National Safety Council. "Accidents to farmers cause enough lost time in a year to produce more than half the average annual wheat crop in the United States."

He reported that there are about 19,000 accidental deaths annually on American farms. More than one-third of these occur in homes, with falls, burns, poisons, suffocation, firearms and drowning the principal causes. "Agriculture is far behind most of the other groups in safety endeavors," he asserted. "Only recently has a beginning been made to reduce farm accidents."

Concluding the conference, the AMA Committee on Rural Health adopted a comprehensive program to bring a high standard of health and medical care to rural communities:

"1. State and public health services for general community hygiene and communicable disease control; public health nursing, well-baby conferences and clinics;

"2. The Hill-Burton Hospital Construction act operating where the people of a community demonstrate sufficient desire for such facilities.

"3. Medical scholarships provided by medical associations, Farm Bureaus and through legislative appropriations to be given to deserving boys and girls, without discrimination, for medical and nurses' education where they agree to practice for a time in rural areas.

"4. Agricultural school extension services where they utilize their home demonstration courses, 4-H clubs, health specialists whose special duty it is to organize health councils in the counties for the purpose of health education and where appropriate to apply for Hill-Burton facilities; the teaching of better farm methods, better soil conservation and soil building practices, better grain and productive livestock methods such as calf and pig clubs, five-acre club lots, better cost accounting and business method.

"5. Parent Teacher associations where they encourage school children examination for hearing, sight, heart, hernia, immunization, school hygiene, as well as physical education.

"6. Special health groups such as tuberculosis, polio, cancer, heart, which do considerable educating within narrow limits.

"7. The application of voluntary prepaid medical and hospital care plans to rural communities, taking into consideration that several of the large farm groups have their own indemnity prepaid medical and hospital plans.

"8. A promotion of state and county health councils, the medical profession acting co-operatively with organized farm groups and other civic, church and school organizations and special health groups for the purpose of health education and health activities of local character.

"9. A plan to bring the medically indigent, or low income, farmer into voluntary prepaid medical plans, which may involve some state financial aid.

"10. Use of the health education programs of farm groups.

"11. Encouragement of the civilian population, as distinguished from governmental official action, to help itself."

ECONOMIST SURVEYS HOSPITAL ACTIVITIES

Economics of the hospital system as he found them in New York and as they would apply elsewhere in the United States were reported by Eli Ginzberg, Ph.D., professor of economics, Columbia University, when he spoke at a meeting of the Council on Medical Education and Hospitals of the American Medical Association February 6, at the Palmer House, Chicago.

He came to the conclusion that hospitals could become a more efficient operation if more attention were paid to the administration and economics thereof. For example, he pointed out, hospital councils, tying in the facilities of a region, would eliminate the duplication and/or imbalance of facilities that exists in some areas now. "Hospital plans of the United States grew up in an era of free competition and no consideration was given to the location of nearby facilities."

Furthermore, he suggested that 70 per cent of nursing functions could be performed by nurses having nine to twelve months of training, provided that the remaining 30 per cent was taken care of by more highly trained nurses, following what he called the "teamwork approach."

COLUMNISTS LASH OUT AGAINST SOCIALISM

Some fifteen American newspaper columnists have lined themselves up against socialism as the onslaught against the first democratic defense—the private practice of medicine—proceeds.

Among the more recent expressions, in book form, is Lawrence Sullivan's *The Case Against Socialized Medicine* which he dedicates "To the men and women of American Medicine, who are too busy in good works to answer the slanderous darts of the bureaucrats."

PARENT TEACHER GROUPS SEEK CONTINUED AID

Minnesota Parent Teacher associations are asking for continued doctor co-operation in their "round-up" program which aims to have all children, entering school for the first time, examined by the family physician and their physical defects corrected, according to the doctor's advice.

The advisory committees of the state and national PTA Summer Round-Up are headed by practicing physicians and the program has the sanction of both the American Medical Association and the Minnesota State Medical Association.

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

230 Lowry Medical Arts Building
St. Paul, Minnesota

Julian F. DuBois, M.D., Secretary

St. Paul Cook Pleads Guilty to Charge of Abortion

Re. State of Minnesota vs. Gordon T. Berger.

On January 25, 1949, Gordon T. Berger, forty-one years of age, 1376 North Victoria Street, Saint Paul, entered a plea of guilty in the District Court of Ramsey County, to an information charging him with the crime of abortion. Berger was sentenced by the Hon. John W. Boerner to a term of not to exceed four years in a state penal institution, the sentence being suspended and the defendant placed on probation for four years.

Berger was arrested on November 4, 1948, with one Lula M. Sloan who stated that she was Berger's common-law wife. They were arrested at their residence 1376 No. Victoria Street, Saint Paul, following an investigation by Minneapolis and Saint Paul police officers of an abortion performed on a Saint Paul divorcee. The investigation disclosed two women at the home of the defendants who had been aborted the day before. The patients were removed to Ancker Hospital in Saint Paul, and the defendants placed in jail. On November 5, a complaint was issued against both Berger and his common-law wife charging them with the crime of abortion. Upon being arraigned in the Municipal Court of Saint Paul on November 6, the case was continued to November 16, for a preliminary hearing. Subsequently the case was continued to November 30, to December 20, and on January 3, 1949, both defendants waived a preliminary hearing and were held to the District Court for trial. On January 6, the cases were set for trial for January 25. On that date, Berger entered a plea of guilty, and the case against the defendant Sloan was dismissed on recommendation of the County Attorney of Ramsey County, when it was diclosed that her participation in the abortion work was merely to look after the patients after they had been aborted by the defendant Berger.

Berger claims that he was born at Harrisburg, Pennsylvania, February 22, 1907. At the time of his arrest he was questioned about his occupation and he replied: "abortionist." Berger stated that he had been performing abortions for about two years and that he made his living as a cook before going into abortion work. Berger performed the abortions by injecting a soap solution into the uterus.

Minneapolis Woman Pleads Guilty to Abortion Charge

Re. State of Minnesota vs. Elsie Mae Perreault

On January 17, 1949, Mrs. Elsie Mae Perreault, forty-two years of age, 2 South 11th Street, Minneapolis, was sentenced by the Hon. Levi M. Hall, Judge of the District Court, to a term of one year in the Minneapolis Women's Detention Home. The sentence followed the entering of a plea of guilty by the defendant on December 30, 1948, to an information charging her with the crime of abortion. In view of the fact that there was no evidence that the defendant had performed other abortions, the Court suspended the sentence and placed the defendant on probation for one year.

The defendant was arrested on December 7, 1948, by Minneapolis police officers when it was learned that a twenty-five-year-old unmarried Minneapolis woman was hospitalized at Minneapolis General Hospital suffering from the after effects of a criminal abortion. The abortion was performed on November 16, 1948, in the apartment of the defendant by the use of elm bark. $100 was paid the defendant for her services. The defendant admitted that she had no training as a nurse or midwife and stated that her knowledge about abortions was acquired by aborting herself in the same manner, on three occasions. The defendant is employed by a Minneapolis printing concern.

St. Paul Dentist Convicted of Abortion

Re. State of Minnesota vs. Earl S. Weber

On January 27, 1949, Earl S. Weber, fifty-two years of age, entered a plea of guilty in the District Court of Ramsey County, to an information charging him with the crime of abortion. Weber, a licensed dentist with an office at 424 First Federal Building, 5th and Cedar Streets, Saint Paul, performed an abortion on a twenty-eight-year-old unmarried Minneapolis woman for which he was paid the sum of $100. The abortion was performed by the use of a curette on January 18, 1949, at Weber's dental office. The patient became seriously ill and required hospitalization at Minneapolis General Hospital.

A plea for leniency was made to the Court on the grounds that Weber is one of four Negro dentists in Saint Paul and that his dental services are needed by the Negro population of the city. It was also stated to the Court that Weber had performed only one other criminal abortion, that one having been performed on a relative of the defendant. Judge John W. Boerner sentenced Weber to a term of not to exceed four years in the State Prison at Stillwater, stayed the sentence and placed Weber on probation for four years. Judge Boerner warned Weber that any violation of his probation would result in an immediate revocation thereof and that Weber would be taken to Stillwater to serve his sentence. Weber stated to the Court that he was born in Saint Paul and graduated from the School of Dentistry, University of Minnesota, in 1921.

Minnesota Academy of Medicine

Meeting of November 10, 1948

The regular monthly meeting of the Minnesota Academy of Medicine was held at the Town and Country Club on Wednesday evening, November 10, 1948. Dinner was served at 7 o'clock and the meeting was called to order at 8:15 p. m. by the President, Dr. T. A. Peppard.

There were forty-nine members and two guests present.

Minutes of the October meeting were read and approved.

Dr. A. W. Ide read the following memorial to Dr. Robert Earl and a motion was carried that this be spread on the Proceedings of the Academy and a copy sent to the family.

ROBERT EARL—1872-1948

Robert Earl was born on a farm near Lansing, Iowa, on August 27, 1872. He was one of five children of Mr. P. O. Earl and Mrs. Hannah Anderson Earl.

Ten years after the birth of Robert, Mr. and Mrs. Earl moved with their family to Minneapolis, having decided to abandon farm life because Mr. Earl was afflicted with a heart murmur. This ailment was not fatal, however, for the father lived past his 97th birthday.

From the time of the move to Minneapolis, Robert Earl attended the public schools of that city, then the University of Minnesota, receiving his M.D. degree in 1896.

He was married in 1900 to Clara S. Swanstrom. He died on August 11, 1948, survived by his wife; a daughter, Mrs. James Slocum of Minneapolis; a son, Dr. John Earl of Saint Paul; five grandchildren; two sisters, Emily Earl and Hilda Anderson of California; and a brother, Dr. George Earl of Saint Paul.

Even a brief history of Dr. Robert Earl's life must emphasize the dual nature of his medical career. His activities as a practicing surgeon in Saint Paul reflect credit both on himself and on his profession. After his graduation in 1896 he served his internship at Bethesda Hospital, where he was influenced by his association with Dr. Edouard Boeckman and Dr. E. M. Lundholm. Partly as a result of their influence his interests were directed to the field of general surgery. After his year as an intern, he established himself in general practice. His formal training in surgery was continued in 1911 by a year of study in Europe.

In 1910 he was joined by his brother, Dr. George Earl. The partnership of the two brothers grew into what became the Earl Clinic. Dr. Robert Earl's son, Dr. John Earl, recently joined this Clinic.

The other major division of his medical career utilized an organizational and administrative ability in activities which had a profound and lasting influence on the community. He was president of the organization known as the Mounds Park Sanitarium, later known as the Northwestern Baptist Hospital Association. Under its original name this association sponsored and built the Mounds Park Sanitarium in 1906. The same organization, under its changed name and still under the Earl guidance, built Midway Hospital in 1926. He was also on a committee of three appointed by the Mayor of Saint Paul to aid in the location of what is now known as Gillette Hospital. He was active in varying degrees in all three of these hospitals after their construction, being a member of the staff of each.

Doctor Earl was a Diplomate of the American Board of Surgery, and was a member of the American College of Surgeons, the Western Surgical Society, the American Medical Association, the Minnesota State Medical Association, the Saint Paul Surgical Society, the Ramsey County Medical Society, and the Minnesota Academy of Medicine. His Inaugural Thesis for the Academy, entitled "Fractures of the Skull," was read on December 12, 1917, and published in MINNESOTA MEDICINE in July 1918. Other papers and frequent discussions were part of his active contribution to the societies of which he was a member.

By his surgical and organizational abilities and by his unfailing interest in the many activities in which he engaged, Doctor Earl established himself as a man of influence. His presence will be missed by the members of the Minnesota Academy of Medicine and by many others, but his influence will endure.

The Committee

ARTHUR W. IDE, *Chairman*
WM. H. HENGSTLER
C. C. CHATTERTON

Upon ballot, Dr. Walter P. Gardner, of Saint Paul, was elected a candidate for membership in the Academy.

Dr. William P. Sadler, of Minneapolis, read a case report on "Rare Types of Intra-Abdominal Bleeding."

RARE TYPES OF INTRA-ABDOMINAL BLEEDING

WILLIAM P. SADLER, M.D.
Minneapolis, Minnesota

There are many obscure causes of intra-abdominal bleeding due to hidden pathological states which severely test the diagnostic acumen of the most experienced. Even in the more usual and obvious diseases causing hemoperitoneum, the diagnosis is not always easy.

Among the commoner types of diseases causing bleeding intraperitoneally are: eroding primary or metastatic tumors of the liver, spleen, kidneys, pancreas, stomach, and bowel. Also, pathologic or traumatic rupture of a viscus, auto accidents, war injuries, industrial and athletic traumata, frequently cause this type of bleeding.

Other causes, less common, are, rupture of varices of and bowel. Also, pathologic or traumatic rupture of a viscus, auto accidents, war injuries, industrial and athletic traumata, frequently cause this type of bleeding.

Other causes, less common, are, rupture of varices of

the liver or round ligament, or of subserosal varices (omental, visceral and mesenteric); dissecting or luetic aneurysms of the aorta or superior mesenteric artery; angiomata of the liver and spleen, and rupture of the inferior epigastric vein.

Ordinary types of intra-abdominal bleeding of interest to the gynecologist are those due to ruptured Graafian follicles, corpora luteal cysts, strangulation of the ovary, tubes, and/or ovary and tube, ruptured ectopic gestation, endometrial cysts, and tubo-ovarian abscesses. Much less common is rupture of a broad ligament varix, rupture of a uterine vein during pregnancy or labor and rupture of a vein on a uterine fibroid from necrosis or stretching. Rupture of cesarean section scars and spontaneous rupture of the uterus during or before labor is not rare.

Spontaneous Splenic Rupture

So-called spontaneous rupture of the spleen is of interest to the internist, surgeon, gynecologist, neuropsychiatrist, otolaryngologist, and syphilologist.

In 1941, King reported the first case of spontaneous rupture of the spleen in infectious mononucleosis. In January, 1948, Timmes, Averill, and Metcalfe reported two cases with a review of the literature bringing the number of such cases to sixteen. Of these sixteen cases, a diagnosis of infectious mononucleosis was made in seven before splenic rupture, and in seven cases after rupture. The diagnosis was doubtful in the remaining two cases.

There were five deaths in this series, giving a total mortality rate of 31.25 per cent. Thirteen of these patients were operated upon with eleven survivals and two deaths. This shows an operative mortality of 15.38 per cent.

It is very probable that rupture of the spleen in infectious mononucleosis either spontaneously or due to minimal trauma may not be as rare as previously supposed. More alertness to the possibility of this disaster with its attendant high mortality in an otherwise benign disease, and prompter surgical intervention when diagnosed, will reduce the heavy mortality. While the spleen is enlarged, intra-abdominal strain should be avoided and abdominal palpation interdicted.

Rupture of the Malarial Spleen

Rupture of the spleen spontaneously or following minimal trauma occurs in many of the splenomegalies, fevers such as typhoid, and following influenza (one case), but the disease par excellence in which it occurs is malaria.

In January, 1948, Hershey and Lubitz reported a case of rupture of the malarial spleen and carefully reviewed the American and foreign literature. Their review brought the number of cases reported from 1917 to 1948 to sixty-four. They quote a review of Leighton, prior to 1917, in which seventy-two cases were reported.

Of Hershey and Lubitz's sixty-four cases, twenty-five splenic ruptures occurred in patients with naturally acquired malaria, while thirty-nine were recorded in patients with central nervous system syphilis who had been inoculated with malaria for therapeusis. Although this complication in naturally acquired malaria is considered rare, and is estimated by Manson and Bahr to occur once in one hundred thousand cases, it occurred three times in 30,000 malarial hospital admissions in the Canal Zone. It is a common cause of death in endemic malarial regions following trauma. It is said to cause 4.45 per cent of all malarial deaths in one section of India (Massari). According to Asteriades, allegedly normal, as well as malarial, spleens have ruptured during labor.

Other Splenic Ruptures

Several cases of spontaneous ruptures of so-called normal spleens have been reported. It is the author's view that some disease process or trauma is a factor in the rupture of these allegedly normal spleens.

McCarthy and Knapp reported two cases of splenic rupture in September 1944, one of which occurred in an infectious mononucleosis patient. (This case was not included in the review of Timmes, Averill, and Metcalfe in 1948.) Their second case developed in a patient in whom the pathologic diagnosis after splenectomy was "multiple hemangiomas of the spleen" with perforation of the capsule.

Case Reports

In the following report, the pathologist ascribed the cause of splenic rupture as probably due to rupture of a capillary cavernous hemangioma.

Case 1.—The case is that of an eighteen-year-old white girl who was admitted to the Minneapolis General Hospital May 15, 1938, because of pain in the lower abdomen, dizziness, nausea and vomiting during the ten hours previous to admission. Three weeks earlier she had developed pain in the right lower quadrant, accompanied by nausea and vomiting and was confined to bed for one week. At that time she came to the Receiving Department for examination. The gynecological staff diagnosed pelvic inflammatory disease and advised further bed rest. From then until admission to the hospital, she suffered with abdominal pain and occasional chills followed by fever. For ten days previous to admission, the patient complained of painful defecation. On the day of admission the patient went for an automobile ride, during which she became suddenly nauseated, started to vomit, and had to lie down because of weakness and dizziness. She became progressively weaker, and the abdominal pain increased. Her menses had been normal except for excessive flow and her last menstrual period had ended one week before admission. The patient had an abortion at the age of fourteen. She had had antiluetic treatments for the past six months. Past history and systemic history were otherwise negative.

Physical examination revealed that the patient was a well-developed, well-nourished, apprehensive, young woman. Her skin was pale, cold, and clammy. The head was normal. The lungs were clear. Radial pulse was not obtainable. Apical rate was 90 and heart tones were faint. The heart was otherwise normal. The blood pressure was 64/40. The abdomen was distended. There was marked tenderness and rigidity of the entire abdomen. Rebound tenderness was elicited. Pelvic examination revealed a moderate cyanosis of the vaginal mucous membrane, a small amount of mucoid discharge from the cervix; the fundus was in second degree retroversion. Marked tenderness was noted throughout the pelvis. A tender mass was in the right adnexal region. The left adnexa was indurated. The clinical impression at the time of admission was intra-abdominal hemorrhage from ruptured tubal abscess or tubal pregnancy.

The patient was admitted in shock at 1:00 a. m. Bedside x-ray indicated a paralytic type of ileus rather than

mechanical obstruction. The urine was negative. Hemoglobin was 44 per cent and leukocyte count was 32,000 with 85 per cent p.m.n.s., 14 per cent lymphocytes and 1 per cent monocytes.

Intravenous glucose was administered. At 2:50 a. m. the blood pressure was 106/60. A blood transfusion was started at 3:30 a. m., and 300 c.c. given. At 7:00 a. m., the blood pressure was 80/46. Another transfusion of 600 c.c. was administered by 8:00 a. m.; blood pressure at this time was 80/46. At 11:00 a. m., laparotomy was performed. The peritoneal cavity was "full of blood," but no bleeding point was found. A bilateral salpingectomy was done. The fallopian tubes showed chronic inflammation grossly and microscopically. The patient was given 1,000 c.c. of glucose at 2:45 p. m., and 1,000 c.c. of citrated blood at 4:00 p. m. At 5:00 p. m., 1,000 c.c. of 10 per cent glucose was again given, and at 10:30 p. m. another transfusion of 750 c.c. of citrated blood was given. The blood pressure at this time was 130/80 following a 600 c.c. transfusion at 1:40 a. m. on May 17; pulse 120 and good quality. At 4:30 p. m. of this day, 2,000 c.c. of 5 per cent glucose was given. The patient's condition remained critical. On the evening of May 18, respirations became labored. After a chest examination, a diagnosis of postoperative atelectasis and possible bronchopneumonia was made. She grew progressively weaker and expired at 7:38 p. m. on May 19, 1938.

The pertinent findings at autopsy were: The peritoneal cavity contains about 2,000 c.c. of dark liquid blood. The large and small intestines are distended with fluid and gas. The peritoneum is covered with organizing hemorrhagic fibrinous adhesions.

A search is made for the point of hemorrhage and a large mass of clotted blood is noted in the left subdiaphragmatic region. It extends below the costal margin and almost to the midline on the left. After the sternum and anterior portion of the ribs are removed to give better exposure, the extent of the clot is determined with some difficulty. The gastrosplenic ligament, the tail of the pancreas, the hilus of the spleen with the splenic artery and vein, and the gastric and renal surfaces of the spleen are all identified. The clot fills the entire space between these organs and the diaphragm. The spleen is embedded in the clot. The clot and spleen are removed in entirety. The mass weighs 1,000 grams. The splenic substance is intact. No definite point of bleeding can be identified on the surface of the spleen. Its diaphragmatic surface is covered by an organizing black clot over which is stretched the badly ruptured diaphragmatic portion of the splenic capsule. It is evident that the peritoneal hemorrhage originated from beneath the ruptured splenic capsule. Outside of the capsule is about 700 grams of fresher dark red clot. The spleen when freed from the clot weighs 170 grams.

Other pertinent findings were a small hematoma one centimeter in diameter on the upper surface of the liver, hydrothorax, atelectasis of lung, bronchopneumonia, and an incidental finding of a congenital anomaly, a double ureter of the left kidney.

Microscopic Findings.—"Study of a large number of blocks taken from the spleen yields little to explain the cause of hemorrhage. In only one small section is found an area probably representing a capillary cavernous hemangioma. But even here the findings are not absolutely conclusive."

*Case 2.**—L. H., a young woman, aged twenty-seven, was admitted to the hospital December 6, 1948, and was discharged well on December 21, 1948.

This patient gave a history of sudden onset of sharp abdominal pain on the day previous to admission. Pain was located in the epigastric region, right upper quadrant, and radiated to both lower quadrants and both flanks. She had bilateral shoulder strap pains. Pain was constant in the abdomen, but sharper at times. A physician, called to her home, made a probable diagnosis of appendicitis and recommended hospitalization. She delayed following his advice and entered the hospital the next morning. Pain had eased up somewhat and on admission she complained of a sharp shooting type of pain in the lower abdomen in the mid-line and suprapubic region. Her last menses was three weeks previously. Two days before admission there was slight spotting. There was no nausea or vomiting, but a loss of appetite. There had been two soft bowel movements the day before admission. She had had one pregnancy terminated at eight months due to eclampsia.

Physical findings showed the entire abdomen tender to palpation, most marked in the right lower quandrant and rebound tenderness was elicited throughout the abdomen. The pain was more severe in the lower abdomen. The uterus was described as slightly enlarged and a tender nodule was palpated in the right adnexal region. Hemoglobin on admission was 52 per cent and dropped to 45 within a few hours. White blood count was 10,600 with 72 per cent p.m.n.s.; blood pressure was 118/70. In view of a markedly tender lower abdomen, a tender right adnexal mass, slight cervical bleeding, signs of intraperitoneal hemorrhage with falling hemoglobin, a diagnosis of ruptured ectopic pregnancy was made and immediate operation advised.

At operation the abdomen was found to contain about a liter of blood and several small clots. The entire pelvis was normal. Exploration revealed a large clot about the spleen. The incision was enlarged, the spleen exposed, and a large hematoma was noted on its superior-posterior-lateral aspect. On palpation a large clot was evacuated from the upper pole of the spleen. There was another small subcapsular hemorrhage 2 centimeters in diameter on the anterior surface of the spleen. Splenectomy was done. The patient received three units of blood by transfusion during the operation.

Her postoperative course was uncomplicated and she was discharged on her fourteenth postoperative day.

Pathological Reports.—Specimen consists of spleen weighing 186 grams after formalin fixation. Covering a large portion of the anterior-lateral surface is a large subcapsular hematoma measuring up to 15 millimeters in thickness. The capsule over this shows irregular jagged lacerations. There are a number of sharply circumscribed, rounded dark purple nodules varying in size from a few millimeters to a few centimeters and extending deep into the pulp of the spleen.

Microscopic.— Sections of spleen show large areas of hemorrhage within the parenchyma. There is no intrinsic pathology in the pulp or malpighian bodies except for this hemorrhage. There is no evidence of tumor formation or angioma.

Diagnosis: Splenic rupture with intrasplenic hemorrhage.

Case 3.—This twenty-two-year-old woman was admitted to the hospital August 3, 1948, and was discharged August 21, 1948. She had been married for three weeks. Her last menses occurred July 15, 1948. She gave a history of experiencing sharp pain in the right lower quadrant during intercourse. Shortly afterward she developed abdominal cramps in the left lower quadrant. The cramps gradually improved. About six hours after coitus her cramps reappeared. She fainted. Her abdominal pains continued unabated. She became nauseated, vomited, was nervous and apprehensive. A family physician saw her, found a blood pressure of 60/0, advised hospitalization for "internal hemorrhage."

Physical findings on admission were temperature 98° F., blood pressure 96/68, pulse 84 full and regular. She appeared pale but was not in shock. Pelvic findings were a normal vaginal mucous membrane, firm cervix, closed, no bleeding or discharge. Corpus normal in size,

*Postscript case.

in mid-position and slightly tender. Right adnexa was negative. There was left adnexal tenderness but no mass. She was observed for two days. The hemoglobin dropped from 65 per cent on admission to 49 per cent in 48 hours; white blood count was 14,400 on admission with 82 p.m.n.s.

Operation was advised on August 5, 1948, under a tentative diagnosis of: (1) Ruptured ectopic pregnancy; (2) Ruptured follicle or luteal cyst.

Operation.—The abdomen contained about 800 c.c. of clots and dark liquid blood. The blood was removed and the pelvis was found normal. Further exploration showed the spleen, liver, pancreas, stomach, and kidneys normal. In the right renal gutter at about the level of the hepatic flexure, a large retroperitoneal hematoma was found and there was an ooze through the stretched peritoneal surface at this point. The hematoma was not evacuated. Oxycel was placed over the oozing area. The patient received 2 units of blood previous to and during operation.

She made an uneventful recovery and was discharged on her sixteenth postoperative day.

Discussion

Three case reports of rare types of intraperitoneal bleeding have been presented. The first patient with ruptured spleen may have had a rupture resulting from a hemangioma, although the pathologist does not indicate certainty. The gross description of the second spleen sounds like hemangioma, but the microscopic picture does not verify this diagnosis. Subsequent to operation in searching for a history of trauma, the second patient stated she was rough-housing with an eight-year old boy relative, but remembers experiencing no injury.

The third patient with retroperitoneal hemorrhage and subsequent intraperitoneal leakage may have had a varix rupture during the act of coitus. There was no obtainable history of any other trauma.

The operator's failure to explore the upper abdomen in Case 1 was due to an interpretation that the "bleeding was coming from the fimbriated extremities of the tubes," and "in view of the patient's critical condition." This error of omission resulted in a fatal outcome.

Summary

1. Many of the common and rare causes of hemoperitoneum are discussed.

2. Spontaneous rupture of the spleen in infectious mononucleosis may occur more frequently than has been suspected.

3. Rupture of the malarial spleen is discussed. It is noteworthy in the reported series that rupture incidence is much higher in patients inoculated with malaria than in those with naturally acquired malaria.

4. Two patients with ruptured spleen operated under the mistaken diagnosis of ruptured ectopic pregnancy are reported.

5. A case of retroperitoneal hematoma with intraperitoneal spilling is reported. The cause is unknown but probably was due to a ruptured varix during coitus.

6. A thorough painstaking exploration is always imperative when the usual sources of intraperitoneal bleeding are not found.

Dr. H. M. N. Wynne, Minneapolis, read his Inaugural Thesis on "Torsion of the Fallopian Tube."

Abstract

A presentation was made of three cases of torsion of the fallopian tube without involvement of the ovary. Slides of drawings and photographs of the specimens were shown. Pertinent literature on the subject was reviewed with a discussion of the symptoms, signs and differential diagnosis of the condition. The conclusion was drawn that a positive diagnosis of torsion of the fallopian tube without involvement of the ovary was extremely unlikely.

The meeting was adjourned.

A. E. CARDLE, M.D., *Secretary*

Meeting of December 8, 1948

The regular monthly meeting of the Minnesota Academy of Medicine was held at the Town and Country Club on Wednesday evening, December 8, 1948. Dinner was served at 7 o'clock and the meeting was called to order at 8:15 p. m. by the President, Dr. T. A. Peppard.

There were fifty-one members and one guest present.

Minutes of the November meeting were read and approved.

The following were elected as officers for 1949:

President, Dr. J. A. Lepak, Saint Paul.
Vice-president, Dr. William Hanson, Minneapolis.
Secretary-treasurer, Dr. A. E. Cardle, re-elected.

Dr. S. Marx White, Minneapolis, read the following memorial to Dr. J. C. Litzenberg.

JENNINGS CRAWFORD LITZENBERG
1870-1948

Jennings Crawford Litzenberg was born in Waubeck, Iowa, April 6, 1870. His paternal ancestors came from Germany in 1700. On his mother's side in the Crawford line coming from Scotland in 1730, were physicians in Cedar Rapids, Iowa, who undoubtedly influenced him much in the choice of his career. When he was six the family moved to Anamosa, Iowa, and when he was twenty, i.e., in 1890, his mother, then widowed, moved to Minneapolis.

Matriculated in the fall of that year in the University of Minnesota, his connection with and profound interest in that great institution covered a period of fifty-eight years, lasting to his dying day.

There was an interim of one year which he spent as Superintendent of Schools in St. Louis Park, but im-

mediately thereafter posts as Educational Director of Evening Schools of the Minneapolis Y.M.C.A. and employment by Dr. L. J. Cooke, Physical Director at the University of Minnesota, enabled him to enter the medical school from which he graduated in 1899. A year's internship in the Minneapolis General Hospital served as a foundation for general practice in Medicine.

Many months of study in Vienna in 1909-10 prepared him for specialization in Obstetrics and Gynecology and on his return he limited his work to that field. He was appointed Professor of Obstetrics and Gynecology and head of that department in 1914. Immediately thereupon he took a period of study and observation of many months in Vienna, Berlin, Glasgow and Dublin.

He retired from active participation in teaching in 1938 with the title of Professor Emeritus. He was a strong protagonist for the essential organic unity of the two fields represented in the title of his department. Responsibilities and honors came to him in profusion. He was elected president of the Hennepin County Medical Society in 1919 and of the Minnesota Academy of Medicine in 1932. He always considered these honors by men who knew him best as a source of greater satisfaction than the national honors that came to him.

He was elected chairman of the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association in 1928; president of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons in 1933, and of the Central Association of Obstetricians and Gynecologists in 1939, and of the American Gynecological Society in 1940.

He was for ten years, 1930 to 1940, a member of the American Board of Certification in Obstetrics and Gynecology.

Litzenberg's great interest was in the saving of the lives of mother and child, and his teaching of undergraduates and graduate medical students reflected his interest. In addition to the many hundreds of the former graduated during his period of twenty-four years as chief of his department, about a dozen men received their special training and earned the Ph.D. degree under his direction.

His researches included the relation between low basal metabolism and infertility, the leukocytes in pregnancy, tubal pregnancy, and pregnancy in the tuberculous. Conservation of the child-bearing function was a major interest with him. He illustrated in striking fashion the dictum so often voiced by the late Dr. James E. Moore, "The true conservative is one who knows when to be radical."

This was manifest in his attitude toward heart disease in pregnancy. The writer of this sketch well remembers an occasion in about 1920 at the University Hospital. He was asked by Litzenberg to see four women in the obstetric wards who were presumed to have heart disease and the obstetrician wished to know if any of the quartette could be carried to term with safety. Older members of the Academy will remember the readiness with which at this period abortion was recommended in the presence of heart disease even though often minor in degree. As a result of the study then made, the opinion was recorded that three of the four, with proper management, could probably be carried through. This seemed to delight our friend. The outcome justified the attempt, and from that time on close co-operation between the obstetrician and the cardiologist has resulted in the saving of many hundred infant lives.

His "Synopsis of Obstetrics" was published in 1940, and translated into Spanish by Professor De Los Reyes in 1941. A second edition appeared in 1943.

He has been given the major credit by his colleagues in obstetrics for the remarkable reduction of maternal mortality recorded in this area beginning with 1920. In that year about 15,000 women died in the nation as a consequence of child bearing. The national and Minnesota rates were about seven deaths for every one thousand live births. When Litzenberg retired in 1938 Minnesota had the lowest maternal mortality rate in the nation. In 1947 Minnesota can boast of a record of 0.6 maternal deaths per one thousand live births. Dr. Ehrenberg, one of his specialty students and a colleague, states that this is the lowest ever recorded in the country, if not in the world.

Characteristic of Litzenberg's spirit, however, is a disclaimer in a brief autobiographic note which reads:

"I have been given too much personal credit for the improved teaching of obstetrics and gynecology in our Medical School. My staff deserves most of the credit for all members were in accord in a determined joint effort to improve the teaching so that all graduates would be constantly conscious of the dangers of child bearing and their duty to reduce them, i.e., the 'philosophy of conservative obstetrics.'"

During Litzenberg's incumbency his department in the Medical School did not require full time and he had his private practice first with a small staff of associates in his specialty. In 1921 he joined a group of men who for the most part held part-time teaching positions in the Medical School, to form the Nicollet Clinic for group practice. From this connection he retired December 31, 1947, and then only when ill health overtook him.

He was much sought in consultation and always spent freely his time and wise counsel.

He was for many years a Trustee of the First Baptist Church of Minneapolis.

A fine oil portrait of "Litz" by Edward Brewer was presented to the University by about two hundred and fifty of his colleagues at the time of his retirement from the University in 1938. It hangs in his former department.

Words by those of us who knew and loved him might be extravagant. Two evaluations by University Presidents under whom he served will not be so considered.

George Edgar Vincent wrote:

"I think of you with pleasure and gratitude. You were always calm, wise, humorous, and a steadying influence. You had ideals of research, teaching and organization to which you were quietly but steadfastly loyal. In times of stress and strain you kept your head and your temper. You will carry with you the assurance that you have played an important part in making the University of Minnesota Medical School one of the best in the country."

Lotus D. Coffman wrote:

"In recognition of your long and distinguished service the President and Board of Regents express their gratitude, esteem and affection. Your name is already on the roll of honor of those who have contributed to the development of a great University. You have served the University notably and well. Your tolerant optimism and intelligent devotion to your work have increased your usefulness far more than you ever suspected.

You have done a good job."

Dr. Litzenberg died August 15, 1948, after two hours' acute illness, of coronary occlusion.

A colleague in his specialty has written: "The Chief is gone! To us who sat at his feet there can be no other Chief. He lighted a torch which we have striven to carry. He personified a great spirit and growth in obstetrics and gynecology. Through the medium of his own idealism he represented an ideal. He was Litzenberg—jocularly translated from German into English by himself, 'A light in the mountains.' A bright light on a lofty height."

S. MARX WHITE

Dr. E. V. Goltz, Saint Paul, read the following Memorial to Dr. Alfred Hoff.

ALFRED HOFF
1883-1948

Dr. Alfred Hoff died suddenly October 9, 1948, at his home following an illness of several months.

He was born March 9, 1883, in St. Paul. He received his preliminary education in the schools of Saint Paul and was graduated from Cleveland High School in 1901. After working in the auditing department of the Northern Pacific Railroad for a time, he enrolled in the University of Minnesota, receiving his Bachelor of Science degree in 1908 and his Doctor of Medicine in 1910. He was a member of the Nu Sigma Nu fraternity and was elected to the Sigma Xi and Alpha Omega Alpha honorary fraternities.

Dr. Hoff served his internship at the City & County Hospital in 1910-1911 and continued his connection with this hospital in various capacities, chief of staff and at the time of his death he was chief of the medical section. In 1926, he took postgraduate work at the University of Vienna. On his return to St. Paul he confined his practice to Internal Medicine.

Dr. Hoff served as Chief of Staff of St. Luke's Hospital and was a member of the Board of Directors of this hospital.

Dr. Hoff was a Fellow of the American College of Physicians, certified by the American Board of Internal Medicine, also a member of the Ramsey County Medical Society, the Minnesota State Medical Association and the American Medical Association. He was a member of the Minnesota Society of Internal Medicine and the Minnesota Academy of Medicine. He became a member of this Academy in 1935.

Dr. Hoff was married December 1, 1926, to Miss Marjorie Monkhouse. He is survived by his wife, son John and daughter Mary Patricia; also by two sisters and one brother.

Dr. Hoff was an ardent student in many phases of medicine. He devoted considerable time to the training of the intern staff and nurses at the Ancker and St. Luke's hospitals. He was held in respect and esteem by his associates for his professional ability and integrity.

The Committee
C. K. WILLIAMS
E. V. GOLTZ

The scientific program followed.

PRE-FRONTAL LOBOTOMY IN EIGHTY CASES

H. B. HANNAH, M.D.
Minneapolis, Minnesota

Therapy has always been a very intriguing subject in the practice of medicine and in more recent years in the practice of psychiatry. This evening I am going to call your attention to the various procedures in therapy which have occurred during the past thirty years.

In 1919 I went to work as a technician in a fairly large eastern sanitarium. We had about two hundred patients and each patient had a private room. The buildings were well constructed and well furnished; the grounds were beautiful and the food was excellent. There were four well trained psychiatrists and three consultants who came every day. Rounds were made twice a day and a staff conference was held once a week. An attempt was made to make a differential diagnosis as to the type of psychosis and a prognosis was given to the family. The treatment consisted of good nursing care, looking after the elimination, good food, sedatives, outdoor exercise, if possible, and hydrotherapy, if the patient was excited. Also, every effort was made to prevent the patient from injuring another patient or from injuring himself. The only specific therapy that I could see at that time was the use of chemicals in the treatment of syphilis.

In the early 1920's Wagner von Jauregg introduced fever therapy in the treatment of paresis. It was claimed at that time that early cases of paresis would be greatly benefited by fever therapy even after the onset of the symptoms and that better than one out of three went into a remission. As you know, fever therapy has continued to be used not only in the treatment of paresis and central nervous system lues, but also as a preventive measure.

Also, during the 1920's psychoanalysis began to be very popular and this was particularly true along the Atlantic seaboard. Of course, it has its greatest value in the treatment of the so-called psychoneurotic group or the so-called nervous tension state. A physician cannot become a psychoanalyst unless he has himself been analyzed and is free of his own hidden emotional conflicts. Psychoanalysis is a long tedious procedure and the average citizen does not have the time or the money to be subjected to this procedure. The period of time is anywhere from six months to eighteen months. As one of my colleagues once said, it seems to never end.

In 1928, at a meeting of a neuropsychiatric association at Madison, a patient with catatonic dementia praecox

was stimulated with carbon dioxide or was permitted to inhale an excess of carbon dioxide and then got up from his chair, walked around, opened his eyes, and answered questions. However, this only lasted for a short period and then he went back into his catatonic stupor. Several other similar experiments were being conducted at Madison with other cases of catatonic schizophrenia.

In 1935, Manfred Sakel released his first work on the treatment of functional psychoses with insulin shock. He reported a very high percentage of recovery in Manic depressive, schizophrenic and involutional psychoses. The psychiatric world was electrified and everyone began to use insulin shock therapy. However, clinical workers in this country and abroad could not duplicate the wonderful results reported by Sakel in the treatment of schizophrenia. However, this stimulated thinking from the standpoint of the organic approach to the treatment of the psychoses of the so-called functional type.

A couple of years later, Meduna reported his series of cases treated with the camphor derivative of metrazol. Metrazol was rapidly injected into the veins and the patient had a severe convulsion. There was much controversy as to whether metrazol was of any greater value than insulin shock therapy. The convulsions with metrazol were so severe that many fractures and dislocations occurred. There is no doubt that the length of time of recovery in the depressions and in the manic attacks was greatly reduced. Also, the patient with acute schizophrenic episodes did much better as far as remissions are concerned with a combination of metrazol and insulin shock therapy.

It was in 1938 or 1939 that two Italians, Beni and Cerletti, released their work on physical shock therapy by means of electricity. The results obtained with electric convulsive shock therapy have been gone over many times in literature and I am not going to spend any further time with this subject this evening.

In 1936 Egas Monas first reported the technique used and the results obtained in twenty cases of prefrontal lobotomy. Since that time there have been a large number of reports by neuropsychiatrists and neurosurgeons in this country as to the results which they have obtained.

Freeman and Watts, of Washington, D. C., have pioneered the operation of prefrontal lobotomy for mental abnormalities and have been very enthusiastic over their results. Magnus Peterson, of the Rochester State Hospital, in Minnesota, has also been very active in this field.

One of the most extensive reports was in 1947 from London, in which 1000 cases, of prefrontal lobotomy were studied. The patients were all in mental hospitals and had been there from one year up to twenty years. Thirty-five per cent of the patients were discharged as recovered or improved; 32 per cent remained at the hospital as improved, 25 per cent remained in the hospital unchanged, and 1 per cent was worse following the operation. Death followed 5 per cent of the cases treated. Hemorrhage was the chief cause of death. Fits were reported in 3 per cent following operation but most of these had but one fit. In this series 60 per cent of the total treated were in the schizophrenic group and 23 per cent of this group were discharged as recovered or improved. The manic depressive group accounted for 25 per cent of the cases, and 50 per cent of this group recovered. Patients whose attacks had persisted for less than two years formed one-fifth of the patients treated and the discharge as to recovered or improved in this group was 58 per cent.

Social behavior was studied in 958 patients after surgery. Of these 244 were as before; 295 were milder; 165 were co-operative; 244 were living as citizens from the industrial and social standpoint, and eleven were worse.

An analysis of certain symptoms also was made. Delusions were gone in forty-six per cent of the patients. The hallucinations were definitely less in 30 per cent. It was very significant that the depression had disappeared in 83 per cent. Eighty-seven per cent had lost their agitation. In 57 per cent the excitement had disappeared or become less. Approximately 70 per cent had lost their obsessions.

Within the last three years we have had prefrontal lobotomies performed in eighty of our patients. Forty-two per cent of these were in the schizophrenic group, and approximately 75 per cent of the schizophrenics were of the paranoid type. These patients had been ill from one to eight years. Thirty-eight per cent were in the psychoneurotic group who suffered from obsessive compulsions. Eighteen per cent were suffering from depressions which had not recovered over a period of years. We had one patient with a chronic maniacal type of reaction and one patient with intractable pain from a carcinoma of the prostate which had metastacized into the spine. This last patient got no relief from his pain from the lobotomy operation.

In our series, we have not had any deaths. Most of the patients are up out of bed within twenty-four hours, and all of them have been up and around within seventy-two hours. The only complaint on the part of the patient has been of some headache or dizziness for a couple of days. A few of the patients have had some vomiting for twenty-four hours. We have not had any hemorrhages or any infection.

It is always difficult in this type of work to accurately evaluate the improvement average. If a patient can make a satisfactory economic, or what might be called an industrial and social adjustment, and get along without help of an institution or medical attention, then I feel that this individual has made satisfactory improvement or recovery. Such improvement has occurred in at least 75 per cent of our patients up to this time. I know you will be interested in what happens to the patients who have not improved. The chief symptoms seem to be lack of ambition, slowness, inertia, lack of desire or urge to work, and a willingness to sit around and do nothing. There is no deterioration in the intellectual level and most of the relatives describe the situation as one of laziness. Also, some of these patients become very irritable and cross if they are urged to extend themselves or look after themselves or do any work. It is difficult for me to understand why we get poor results in some of these cases.

I feel that we can draw the following conclusions at the present time:

1. Prefrontal lobotomy has been a rather simple operation as far as the patient is concerned. Ninety per cent of the patients have been able to get out of bed the day following the operation and, outside of a mild to moderate headache for a couple of days, they have had no other physical complaints. Complications are certainly rather infrequent and we have had no deaths so far in our series. Of those patients who made an eventual substantial recovery, 50 per cent were very slow and showed lack of initiative and had no urge to do things from several weeks up to several months. However, this slowness and lack of initiative gradually disappeared in all except 25 per cent of our patients.

2. Remarkable improvement in behavior has followed in all of our patients. This has been particularly true in the paranoid group. This improvement in behavior followed immediately after the surgery.

3. We are frequently asked the question as to what the result will be in ten to twenty years from now. Will there be a loss of some of the finer mental qualities? Up to the present time, we have not seen any intellectual deterioration but further study and observation for a period of years will certainly enlighten us further.

4. We do not feel that this operation should be carried out without careful consideration of each individual patient by experienced physicians who have had training and are experienced in the field of psychiatric medicine.

(Dr. Hannah presented two patients who had made a recovery.)

Discussion

DR. W. H. HENGSTLER, Saint Paul: I want to express my personal appreciation to Dr. Hannah for his paper. I think it was very fine. My own experience in recommending lobotomy has been more limited. Dr. Ritchie has done some for us. The chief thing about it is that it now offers us something beyond shock therapy. We have been blocked off after we had given psychotic patients a certain amount of psychiatric care. Lobotomy offers these people something to hope for after some time. It also offers the State something, in that such a high percentage of patients who have lobotomy operations are able to leave the institutions and go back home at least, if not amenable to economic and social adjustment. The public gets the idea that everybody should have a lobotomy and get well. I think that is the danger as it is in any treatment which is not as yet completely standardized. I think Dr. Hannah's cases have proved that this is something which is very beneficial, and in the future we shall be able to establish certain standards by which we can go. They must be cases that have been psychotic for an extended period of time—three to five years—before lobotomy is attempted as a last procedure. I do believe that, as Dr. Hannah says, the family should be advised to have this operation done, assuming that all other methods have failed.

DR. WALLACE P. RITCHIE, Saint Paul: The results that Dr. Hannah and Dr. Buchstein have had are certainly excellent and one could ask for no finer results than the two cases that were shown this evening.

We are really indebted to the two chimpanzees, Lucy and Becky, for the development of prefrontal lobotomy. These chimpanzees were used by Dr. John Fulton and his co-workers at Yale University and it was found that they were exceedingly excitable during their testing and at one time they became so irritable because they could not perform certain tests it was feared they might have nervous breakdowns if the examining was carried further. Prefrontal lobotomies were done on both these chimpanzees and, following this, they became much more amenable to testing. They strove to carry out their tests, but if they missed one they did not seem to be bothered by it.

Mechanically, the prefrontal lobotomy is not difficult: it is merely sectioning some of the white fibres from the frontal lobes which go to the thalamus.

In the selection of patients, the utmost care must, of course, be used. Usually in the psychotic patient, who has had years of treatment without avail, there is no question about the advisability. It is in the severe psychoneurotic patients that the extreme care must be taken, as, in my experience, patients are somewhat superficial in their attitude toward their life following the procedure. It is, therefore, truly an operation of last resort, in my opinion, and should never be done unless all other treatment has failed and life is unbearable for the patient.

DR. E. M. HAMMES, Saint Paul: Dr. Hannah has so fully covered the subject that there is very little to add. However, I feel it might be of interest to add how insulin and metrazol shock treatments came about. In the course of treating drug addicts and alcoholics, Sakel observed that, if he gave them moderately large doses of insulin also, the nervous manifestations were less pronounced. From this he reasoned that perhaps he might get some beneficial results with the use of insulin in psychotic patients. Fortunately, his first few patients responded satisfactorily. Meduna noted what is generally known, that epileptics very seldom suffer from a somatic psychosis. Because of that, he reasoned that perhaps the somatic psychosis would respond satisfactorily to convulsions produced by drugs. He first began to use metrazol and had satisfactory results. It was later found that the convulsions with metrazol were very severe and patients developed undue emotional reactions and fears. Gradually convulsions were produced in these patients by use of electric shocks. Judging from a fairly large experience with these treatments, we feel definitely that the percentage of recoveries is greater and the period of hospitalization is shortened. The most important question, however, is—How permanent are these results? Unfortunately the recurrence in these psychoses with the various forms of shock treatments is about as frequent as it was before they were used. The addition of psychosurgery to the therapeutic armamentarium has been another additional and very important help. We have had some very nice results in cases associated with noticeable depression, also a considerable amelioration in some of our chronic schizophrenics whose outstanding symptoms were vicious and destructive tendencies.

The meeting adjourned.

A. E. CARDLE, M.D., *Secretary*

Minneapolis Surgical Society

Meeting of November 4, 1948

Carl O. Rice, M.D., Presiding

NON-OPERATIVE DECOMPRESSION OF THE INTESTINAL DISTENTION OF BOWEL OBSTRUCTION AND RELATED DISEASES

(Abstract)

J. H. STRICKLER, M.D.
Minneapolis, Minnesota

Most surgeons agree that severe or prolonged adynamic ileus is best treated by long intestinal intubation and suction. However, the treatment of acute mechanical obstruction is a subject on which some difference of opinion exists as to whether operation should be performed at once or after preliminary intubation and decompression has failed to relieve the obstruction. All agree that even a reasonable suspicion of strangulation of bowel is an acute surgical emergency.

Particularly in the present era of safe surgery and low risk of anesthesia—a prolonged period of decompression is undesirable whether the obstruction is to be treated by suction alone or as preparation for operation. Since the mortality from obstruction rises after a period of twenty-four hours and is especially high after seventy-two hours, the success of intubation treatment depends upon the rapidity with which it can be instituted. Such methods as inserting the tube blindly and waiting for passage, or waiting twelve to twenty-four hours before employing fluoroscopic aid, must be considered as only adding to the mortality and morbidity rates. One must establish an arbitrary short trial period after which, if intubation has not been successful, it should be abandoned. In this series 44 per cent of the cases of obstruction were intubated in thirty minutes or less and little further was accomplished after one hour. Therefore a trial period of one to two hours should be adequate. By adhering to such a policy and by the use of the technique and tube to be described, intubation treatment should still have an important place in the treatment of bowel obstructions. The patient can be evaluated more carefully and the surgical risk lessened by restoring physiological balance by means of decompression.

Reports on the general use of the Miller-Abbott tube indicate that failures and slow pylorus passage rates are discouragingly common. It is with such facts in mind that a search was made for an improved tube and a more reliable technique so that the long tube decompression would still have its proper place in the treatment of bowel distention and the employment of intubation would then improve the results. Wangensteen warns that the practice and employment of suction as a test procedure to indicate whether operation will be necessary leads only to a deferment of appropriate treatment.

Dr. Strickler is a Fellow, Department of Surgery, University of Minnesota Medical School (by invitation).

In 1944 John Wild of England published a description of a plastic tube with mercury-containing gravity director head and a bolus balloon. In an early series of twenty successive cases, without the aid of fluoroscopic guidance, Wild achieved an average passage time of 57.2 minutes for the tube to reach the second portion of the duodenum as confirmed by x-ray plates. Since that time the tube design and passage technique have become standardized. This technique and an evaluation of clinical results in 100 consecutive intubations on all types of intestinal distention will be presented here.

All intubations should be done with the aid of fluoroscopic manipulation and observation. Prior emptying of the stomach by suction will save time during passage of the long tube. The full, decompensated stomach associated with intestinal distention will then have had an opportunity to regain tone and motility essential to passage of the tube through the pylorus.

Duodenal Catheterization

Standard technique for the passage of Wild tube or other types of long intestinal tubes with a mercury gravity director head and balloon bolus with fluoroscopic aid:

1. Two per cent Pontocaine solution is applied to the nose.
2. With the patient lying flat on his back, place balloon of the tube at the tip of the xiphoid and measure the distance to the nostril. Place a tape marker on the tube at this point.
3. Stuff lubricant into the nostril and lubricate the mercury sack and balloon.
4. Milk the mercury sack into the nostril with the thumb and forefinger until all of the balloon has entered nostril.
5. Place the patient in the sitting position, leaning to the left, resting on the outstretched left arm.
6. Guide, do not push, the tube into the nostril as patient swallows it. Sips of tepid or warm water may be used if desired. Stop as tape marker reaches the nostril.
7. Inject air (usually 500 c.c.) into the stomach through the suction tube by means of a syringe. If the patient belches or complains of epigastric pain, stop at that point. In the presence of severe distention or cascading, 800 to 1000 c.c. of water may be needed to negotiate crossing of the stomach.
8. Place the patient on the right side, in about the half prone position.
9. Pass the tube 8 to 10 inches farther. This places the tip at the pylorus with enough slack to enter the duodenum.
10. Wait ten minutes and check by fluoroscopy.
11. If the tip is in the first portion of the duodenum, tilt the fluoroscopic table to 45 degrees, feet down; check each minute or two by a brief glance, until the tip is in the lower part of the second portion of the duodenum. Then insert 10 c.c. of air into the balloon.
12. Turn the patient to the left with fluoroscopic table flat until the tip passes the ligament of Treitz.

Fig. 1. Demonstrating the proper amount of slack tube in the stomach. Although the gravity director head is in the second portion of the duodenum, the bolus balloon is not far enough advanced to be inflated without fear of pulling the tube back into the stomach. Number 1 is placed to the right of the small metal insert in the end of the airway tube at the point of attachment to the bolus balloon. Number 2 is to the right of the metal sleeve which supports the bilaterally placed holes in the Koroseal suction tube. Number 3 is mercury within the closed gravity director head sack.

Fig. 2. The tip of this tube is low in the second portion of the duodenum. At this point the bolus balloon may be inflated with 10 c.c. of air and the patient turned on the left side. Although it is desirable to have the tube beyond the ligament of Treitz before discontinuing fluoroscopic manipulation, this position assures one that the intubation is successful and that decompression will begin.

13. When the balloon has passed the ligament of Treitz, withdraw air and refill to a total of 20 c.c. of air.
14. Check with Bucky film to make certain of position.
15. Return patient to bed and write orders to have tube advanced four inches each hour. Ascertain proper functioning of suction.
16. Check position at least once daily to be sure that the tube is not arrested over twenty-four hours in one position.
17. When the tip of the tube ceases to travel or the desired distance has been achieved, deflate the balloon.
18. Obtain check films each three to four days and inspect mercury sack for signs of distention from infusion of gas into the sack.

For Passage in Bed.

1. After the tip has been passed to the pylorus, elevate the foot of the bed to an angle of 45 degrees for half an hour. This accommodates for a saccular stomach and/or a high duodenal cap.
2. Then raise the head of the bed on two-foot shock blocks, or crank the head of the bed to 45 degrees for a half hour. Get check film and proceed as previously outlined.

For Passage in Gastric Resection Cases

1. After passage through the nose, keep the patient in the sitting position, leaning far to the left, until the tip of the tube has passed 12 to 18 inches beyond the xiphoid.
2. Do not use air in recently operated patients.
3. In the seriously ill, pass the tube with the patient lying on the left side with the head of the bed elevated.
4. Get a check film. If the tip of the tube passes to the left lateral wall and down near the iliac crest, inflate the balloon with 20 c.c. of air and have the tube advanced four inches each hour as in other cases.

Additional General Comments

If after five to ten minutes of fluoroscopic observation the tube has failed to pass the pylorus, put the patient to bed on the right side. Three to 5 c.c. of air in the balloon may help its passage. Recheck with films at intervals, depending upon the urgency of the case. Passage is usually accomplished in three to six hours.

Do not sedate the patient prior to passage.

In very old, weakened, or overly sedated patients, it is best to pass the tube into the esophagus with the patient flat on the back.

If the plastic tube is not sufficiently well visualized under fluoroscopy and the question of looping or knotting arises, 25 c.c. of thin barium may be put in under fluoroscopic vision until the barium column arrives at the tip of the tube. The barium should be withdrawn before sending the patient to bed.

Before giving up fluoroscopic trial the patient should be placed on the abdomen for five to ten minutes, head down about 20 degrees for five to ten minutes. Check the position of slack tube in the stomach, leaving only enough to follow the greater curvature.

If the tube fails to pass out of the fundus and extreme distention is present, a gastric balloon may be necessary to force the tip of the tube to the pylorus.

During air injection, if the patient belches on 50 c.c. of air, the tip is either in the esophagus or in a greatly compressed stomach. In such an instance, a gastric balloon likely will be needed.

In adynamic ileus, when the tube has entered the duodenum, a gastric suction tube should be inserted through

Fig. 3. Air injection technique. The tip of the tube is probably within the antrum. The two tubes on the right are air vent drainage tubes.

Fig. 4. The tube has passed through the pylorus, through the bulb, and now lies in the upper second portion of the duodenum. The time interval between films was one hour.

the other nostril into the stomach to prevent redistention above the advancing tube.

In a patient with active peristalsis the tube should never be taped to the nose when the balloon is inflated, for the sawing motion caused by peristalsis tugging on an anchored tube may cause esophageal erosion at the level of the cricoid cartilage and consequently a laryngeal inflammation and stenosis.

A word of caution should be added regarding the insertion of mineral oil down the tube. Oil will damage the latex rubber gravity head and balloon and the mercury sack may rupture as it is pulled out of the nostril. Aspiration of mercury is the only serious complication from breakage of the gravity head.

If one is uncertain as to whether the tube is in the stomach or third position of the duodenum, thin barium can be injected under fluoroscopic vision. Ten to 15 c.c. is usually sufficient to demonstrate valvulae conniventes.

In this series of 100 cases, forty-one were instances of acute obstructions on admission to the hospital, forty-three were intubated for postoperative distention, eight for adynamic ileus not related to prior operation and eight for prophylaxis prior to resection and anastomosis of non-obstructing colonic lesions.

In thirty minutes or less, the tube tip was placed low in the second portion of the duodenum in 44 per cent of patients with acute obstruction, 30 per cent of those with post-operative distention and 47 per cent of those with a gastroenteric stoma. As compared to Beverley Smith's series of 1,000 cases of Miller-Abbott intubations, this series has a 50 per cent successful passage rate in the period up to three hours of trial, whereas Smith reports 9 per cent.

Of the 18 per cent failures in this series all but 5 per cent were due to impossible situations such as mechanical obstruction at the pylorus due to carcinoma or ulcer, postoperative vagotomy, decompensated stomach and pylorospasm, mesenteric thrombosis, bile peritonitis in severe biochemical imbalance, and discontinuance of intubation treatment under one hour, or before the position of the tube could be proved by x-ray.

Twenty-two per cent of patients with primary obstruction were treated by suction only, and 81.4 per cent of those with postoperative distention were managed by intubation and suction only. In the obstruction group 73 per cent either had no operation or were operated upon after decompression and hydration had been accomplished.

Decompression was accomplished in less than twelve hours in 42 per cent of patients with cases of acute obstruction but in only 11 per cent of the instances of postoperative distention.

There were two cases of proven, definite and severe generalized peritonitis on whom intubation was successful and decompression was achieved, demonstrating contradiction to the opinion of some authors that suction decompression in such cases is impossible.

After elimination of hospital deaths occurring long after decompression and those due to terminal carcinomatosis unrelated to distention, the mortality rate was found to be 7.3 per cent for obstructions, 12.5 per cent for adynamic ileus not related to prior operation, and 11.6 per cent for postoperative distention of such severity as required long intestinal intubation. The total group mortality was 9.0 per cent.

Wild Tube Advantages

The Wild tube has the following advantages over the conventional Miller-Abbott tube:

The Wild tube is of plastic material, dri-film treated and is less irritating than rubber.

The aspiration lumen is larger and plugs less easily.

The terminal hole distal to the bolus balloon assures suction ahead of the balloon so the tube will not be pushed back by reverse flow. Multiple aspiration holes tend to become plugged distally and suction becomes effective only at some distance behind the balloon.

The mercury gravity director head acts as a leader device.

Air and mercury being in separate compartments assures dependable control of the air in the bolus balloon.

The small size and thick wall of the gravity director head insure against diffusion of a dangerous amount of intestinal gases.

The more tense bolus balloon of smaller air capacity probably affords a stronger stimulus to peristalsis and gives the bowel wall a more firm substance to grip and propel along.

The terminal hole and proximal balloon make possible local barium diagnostic studies, when the tip of the tube meets the obstruction. This type of design also permits the use of air injection to open kinks in the bowel distal to the balloon.

Conclusions

The Wild tube affords more rapid passage and more efficient decompression than has been reported heretofore.

Fluoroscopic guidance, until the tube is beyond the ligament of Treitz, is the most certain means of obtaining dependable treatment.

The air injection technique (500-800 c.c. into stomach) has improved passage across the stomach and has probably aided pyloric passage.

The gastric balloon technique has solved the problem of the markedly compressed stomach.

The tube tip was delivered to the pylorus in ninety-nine of one hundred cases. The intubation was discontinued on one case before the tube had been swallowed.

Redistention above the travelling tube, in the case of adynamia, is treated or prevented by gastric suction through the other nostril.

The tube may be passed the entire distance from nose to ileum during an operation by the combined efforts of anesthetist and surgeon.

The criterion of successful small bowel catheterization must be roentgen evidence that the tip of the tube is in the second portion of the duodenum.

Narcotic sedation prior to intubation very likely interferes with pylorus passage.

Mechanical obstruction at the pylorus, and a post-vagotony decompensated stomach are the only consistent causes of failure to pass the pylorus in this series.

Decompression in inhibitory ileus and postoperative distention is considerably slower than in primary obstructions but there are patients in this series with severe and definite adynamia who were rapidly intubated.

Patients with a gastroenteric stoma have about the same pass rate and final success as those with a pylorus.

In acute obstructions, of all types, 44 per cent of the cases can be intubated in 30 minutes or less. Therefore an attempt at intubation may well be worth while even in patients who are to be operated on at once.

In this series 73 per cent of those with primary obstructions either had no operation or were operated upon after hydration and decompression.

A corrected mortality of 7.3 per cent for primary obstructions of all types, and 11.6 per cent for postoperative distention was observed in this group of 100 consecutive intubations.

Discussion by Dr. John J. Wild

Long Intestinal Tube Design

So far no entirely satisfactory long intestinal tube has been produced commercially. In 1942, finding the existing so-called Miller-Abbott tubes unsatisfactory in England, I decided to try to improve them and have been working almost exclusively on the problem since then.

It has not been possible to get satisfactory co-operation from commercial interests, so methods of fabrication in the laboratory of experimental designs of long intestinal tubes have been developed. In this way it has been possible to test designs quickly and efficiently with the result that an almost completely satisfactory clinically tested tube has been developed. This tube, together with a simple technique which has been developed, has resulted in a decided advance in the use of long intestinal tubes in the direction of rapid introduction in practically all types of cases. Ease and simplicity of introduction is increased and worry and detailed nursing care of the patient are reduced.

The present design consists of a nine-foot tube of adequate suction lumen made of a non-irritating plastic material. Freedom from kinking and twisting is assured by adequate thickness of the wall.

The design of the aspiration orifices represents a considerable advance. Such orifices are placed at the tip of the tube, are two in number, and obstruction from twisting or acute bending is prevented by a metal insert held in place by the binding of the intestinal balloon and of the gravity director head.

An inflatable bolus of special design is attached just proximal to the aspiration holes. This bolus is inflated by a separate plastic tube which will ultimately be attached to the main suction tube in such a way as to avoid costly metal connecting pieces.

The bolus has a primary inflation capacity of 5 c.c. and can be increased subsequently to 10 c.c. and then to 20 c.c. after the duodenum has been passed.

The 20 c.c. distention is used for intestinal travel. The balloon is distended spherically under pressure so that a very rigid bolus is formed which makes for easy handling of the tube during operations where it is desired to decompress the distended bowel. Fifty c.c. distention under pressure effectively seals the bowel proximal to the aspiration holes so that radiopaque media can be injected distally into the lumen of the bowel. Air also can be injected distally into the bowel for the purpose of removing kinks due to postoperative adhesions.

The gravity director head is a carefully designed sack of rubber partially filled with 2.5 c.c. of mercury. The head can be introduced easily into the nose without instruments and is of such a shape that it will negotiate the lower end of the stomach and pyloric region. Should the sack distend with gas, the size assumed is not sufficient to cause trouble upon removal. The gravity director head is attached to the tip of the tube and pulls the tube end-

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wise behind it so that there are no projecting tips to catch at the lower end of the esophagus or pylorus.

This arrangement of intestinal balloon, aspiration holes and gravity director head from above downwards has been found to be the most expedient way of rapidly transversing the gastrointestinal tract in cases of intestinal distention.

With such a tube design it has been found possible to deliver the tip of the tube to the pylorus in a matter of minutes with the aid of fluoroscopy in all but the very severest grades of distention, which are very rare. Thus a true evaluation of the pylorus as a cause of difficulty can be arrived at. The principle of the technique is to inject sufficient air into the stomach to give the tube tip free access to the pyloric antrum. The injection of air in the severest grades of distention can be carried out only in tubes with terminal holes.

A consideration of the perplexing number of tubes which has been available to the profession commercially will show in the light of the foregoing material that their design leaves much to be desired if the previous mistakes in design of the commercially produced so-called Miller-Abbott tubes are to be avoided.

The So-Called Miller-Abbott Double Lumen Tube (1938).—The double-lumen construction was responsible for the discrediting of the work of Johnston and Abbott in that an adequate suction lumen was not provided. The original investigators used separate inflation and suction tubes so that an adequate suction lumen was provided. Further, costly and inefficient metal connecting pieces are obligatory with this type of construction. The metal connection piece introduces a constriction in the suction line and the two connectors to the balloon and suction lumen give rise to confusion so that irrigation fluid or barium may find their way into the balloon. This may have serious consequences if unrecognized.

The tying-on of the condom-thin balloon is not easy, since no metal insert is provided proximally to prevent occlusion of the inflation lumen if the binding is applied too tightly. Leakage of the balloon may occur if the binding is too loosely applied in an attempt to avoid obstruction of the lumen. The balloon is filled and not distended with air. This makes handling of the tube difficult through the bowel wall at operation.

A terminal metal bucket is provided with multiple perforations to form a strainerlike tip. This projects from the balloon and is liable to get caught at constrictions of the gastrointestinal tract. Also, when in use, it clogs rapidly, leaving the burden of aspiration to the holes situated proximal to the balloon. These proximal holes are small and distributed along the tube axis for some distance, so that maximum suction is obtained only at the most proximal hole. The holes are too small and are unsupported. Since the bowel lining membrane can get sucked into the holes, resistance to travel occurs, and this is probably one of the reasons for failure to decompress true adynamic ileus.

The use of mercury in the balloon of the Miller-Abbott tube was suggested by Dr. Ivar Sivertsen of Minneapolis in 1941. It improves greatly the passage rate of the tube into the duodenum, but the tip may often impede if not completely arrest the tube. Doubling of the tube may also occur. The mercury is inserted after the tube has been passed into the stomach. Thus the valuable aid of the mercury to swallowing is lost. If inserted before passage, the danger of rupture of the thin condom is very real. Having gotten the tube into the bowel, its performance still leaves much to be desired. The rubber is very irritating to the nose. None but the largest size is reasonably efficient relative to the suction lumen and this tube is too large for most noses. The metal connection piece offers further resistance to the intestinal contents.

The Harris Rubber Tube (1945) and Its Plastic Modification by Herrerra et Al.—This is a single-lumen tube having a full size condom attached to the end as with the Miller-Abbott tube. Seventy grams of mercury are used as a bolus. The Harris tube has a totally inadequate suction lumen and is made of rubber. The Herrerra modification provides a much larger and adequate lumen and is made of Koroseal surgical tubing. The size of Koroseal recommended by Herrerra et al is prone to kinking, owing to the thin wall selected. Adequate removal of intestinal contents is provided by a suitably large bore. Herrerra et al also suggested using a double condom to minimize the risk of rupture when passing it into the nose. Inflation of the condom spontaneously in the bowel, due to diffusion of gases, has been reported by Harris as a frequent complication. This can be avoided by flushing out the balloon with carbon dioxide, or, more easily, by the use of Neoprene synthetic rubber. The projecting tip of the tube is liable to get caught up, as with the so-called Miller-Abbott tube.

The Cantor Tube (1946).—This is another single-lumen tube of rubber of adequate lumen with multiple unsupported holes placed axially in groups, with the disadvantages previously described. The gravity director head is unnecessarily large and has a blunt end which does not utilize the properties of the mercury to maximum advantage. Arrest or delay at the lower end of the esophagus or pylorus is not infrequent. It is also more difficult to get into the nose than my original design. Autoinflation in the gut is prevented by using Neoprene rubber which will have to be tested by experience. The tube is rather large for the comfort of the patient and thus causes considerable resistance in the nasal passages. It is doubtful whether the mercury bolus alone is as efficient as a balloon bolus, on the basis of experiments on myself with a number of designs of tube. Other faults can be deduced from the foregoing material.

The Kaslow Tube (1947).—This is useless, since the wall of the suction tube is totally inadequate and adequate suction merely flattens the tube.

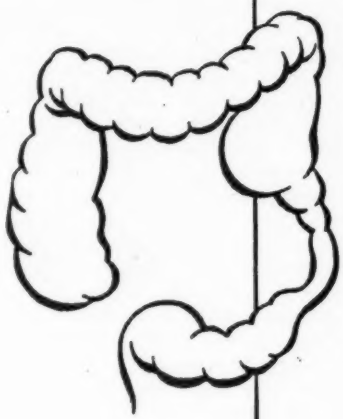
The Honor-Smathers Tube.—This is a commercially produced plastic tube of the best design to date. The lumen is adequate, the metal connecting piece is well designed though liable to confusion. There is an inflatable gravity director head which is inflated by means of a very small inflation lumen in the wall of the tube. The plastic is poorly compounded in that it gets stiff quickly on use. The holes are unsupported, making the tube liable to kinking. They are arranged axially along the tube and are thus inefficient for reasons before mentioned. The inflatable gravity director head is unnecessarily large and has the same disadvantages as the Cantor type, with the additional one of obstructing the flow of intestinal contents to the aspiration holes when inflated. The Honor-Smathers tube has not been described in the literature.

I hope that soon it will be possible to get an efficient tube made according to my specifications, which have been arrived at by much work and observation. Further interesting work is in progress towards a simple solution of a difficult problem which will put into the hands of my colleagues the means of truly evaluating the long intestinal tube.

HAMLIN MATTSON, M.D.
Recorder

Bowel Management of the Irritable Colon . . .

"As an aid in reestablishing a normal rhythm, the temporary use of a bland bulk-producer . . . may be beneficial. . . . Patients having irritable colon who believe they are suffering from constipation commonly use high-residue diets, . . . They may not realize that this practice is similar to using irritating cathartics or large enemas and often increases the tendency to constipation by increasing spasm of the colon."*



Metamucil is "a bland bulk-producer" which gently initiates reflex peristalsis and movement of the intestinal contents. The "smoothage" therapy of Metamucil encourages a return of the normal function of the colon without irritating the mucosa.

METAMUCIL®

is the highly refined mucilloid of Plantago ovata (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

SEARLE RESEARCH IN THE SERVICE OF MEDICINE

*Collins, E. N.: The Diagnosis and Treatment of Irritable Colon: Physiologic, Local, Irritative and Psychosomatic Factors, M. Clin. North America 32:398 (March) 1948.

Reports and Announcements

AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS

The Industrial Physicians and Surgeons of the United States and Canada will hold their 34th annual meeting at Detroit, Michigan, April 2 to 9, 1949, with headquarters at the Book-Cadillac and Statler Hotels. Participating groups are the:

American Conference of Governmental Industrial Hygienists
American Industrial Hygiene Association
American Association of Industrial Dentists
American Association of Industrial Nurses

The week-long program is featured by (1) Surgical Clinics at the Henry Ford and Harper Hospitals, (2) scientific sessions on such timely subjects as the problems created by atomic radiation, cardiovascular diseases among the employed, alcoholism in industry and toxicities of industrial substances such as beryllium, agricultural chemicals and rare metals and (3) special sessions for physicians in steel manufacturing and heavy industry, in rubber, petroleum and chemicals, in coal mining and metal mining.

Other features are the arrangements for plant tours along the assembly lines of the great automobile companies and through the plants of many of Detroit's famous manufactories. All physicians and surgeons, industrial hygienists, industrial nurses and others interested in industrial health are invited to attend.

Hotel reservations should be made with hotels direct.

AMERICAN COLLEGE OF ALLERGISTS

The American College of Allergists will meet at the Palmer House in Chicago, April 14 to 17 inclusive. More than 1,000 physicians from North America and abroad, who are interested in allergy, are expected to attend. All physicians are urged to attend. An interesting program covering a wide range of allergic conditions will be presented.

Reservations should be made directly with the Reservation Manager, Palmer House, Chicago 90, Illinois, giving the time of arrival and departure.

THE INTERNATIONAL ACADEMY OF PROCTOLOGY

The International Academy of Proctology was founded July 6, 1948, for the purpose of advancing the practice and study of diseases of the colon, to stimulate research, to promote the practical application of all recent advances in proctology, to encourage instruction in the specialty and to publish articles on the subject. Those specializing in proctology, or whose interest lies in the field of proctology, are eligible to membership. Specialists in the field, whose outstanding achievements meet the approval of the Committee on Membership, are eligible to membership as Honorary Fellows. Application should be made to Dr. Alfred J. Cantor, 43 Kissena Boulevard, Flushing, Long Island, for charter membership or Fellowship in the Academy.

INTERNATIONAL CONGRESS ON RHEUMATIC DISEASES

An International Congress on Rheumatic Diseases will be held at the Waldorf Astoria Hotel in New York City from May 30 to June 3, 1949. Mornings will be devoted to addresses, and clinics will be held in the afternoon. Some 150 physicians from foreign countries are expecting to attend, and a number of distinguished foreign guests will participate. English, French and Spanish will be the official languages and instantaneous translations of the scientific papers will be made by means of the I.B.M. wireless system. The meeting is open, and the registration fee is $10.00. The Congress office is at 2020 East 93rd Street, Cleveland 6, Ohio.

USPHS EXAMINATION FOR MEDICAL OFFICERS

Competitive examinations for appointment of medical officers in the Regular Corps of the United States Public Health Service will be held May 3, 4, and 5, 1949, in various cities throughout the country, Chicago being the nearest for Minnesota aspirants.

Appointments will be made in the grades of Assistant Surgeon (1st Lieutenant) and Senior Assistant Surgeon (Captain), and are of a permanent nature.

Applicants now serving internships will be allowed to complete them before going into active duty. Examinations will consist of written professional tests, an oral interview, and a physical examination.

Entrance pay for Assistant Surgeons with dependents is $5,011 per annum; for Senior Assistant Surgeons with dependents, $5,689. These figures include the $1,200 annual additional pay received by medical officers, as well as subsistence and rental allowance.

Complete applications must be received by April 4, 1949. Forms may be obtained by writing to Surgeon General, United States Public Health Service, Washington, D. C.

COMMUNITY SEEKS PHYSICIAN

The Methodist church is seeking a physician to locate at Jasper, Arkansas, to serve in Newton County where 10,000 inhabitants are without a doctor. If a doctor can be found, the Methodist church will organize community support for the erection of a clinic with a laboratory and a few beds, and will subsidize the establishment until a practice can be built up. The state will probably supply a nurse. For further information, write Dr. M. O. Williams, Board of Missions and Church Extension, 150 Fifth Avenue, New York 11, N. Y.

COURSE IN CANCER NURSING

A new course in cancer nursing will be offered during the spring quarter by the University of Minnesota's School of Nursing. The course, beginning on March 28, is open only to graduate nurses. Serving on the faculty will be Mrs. Genevieve Seller of the Public

(Continued on Page 312)

(Continued from Page 310)

Health Service of the Federal Security Agency, and Helen Hanson, cancer nursing specialist on the University School of Nursing staff.

The course is being offered in answer to the requests of many nurses who wish to assist in the cancer control program. The planning of the curriculum was executed by several co-operating groups: representatives of the State Board of Health, the Minneapolis Department of Health, Twin Cities Public Health Nursing Agencies, the Minnesota League of Nursing Education, and the University Schools of Nursing and Public Health.

ST. LOUIS COUNTY

The St. Louis County Medical Society held its annual meeting in January at the St. Mary's Hospital conference room. Elected as president of the group was Dr. M. H. Tibbetts of Duluth.

CRIPPLED CHILDREN CLINICS

Each year, in spring and fall, the Crippled Children's unit of the State Department of Social Security holds clinics, conducted by an orthopedist and a pediatrician, throughout the state. Practitioners may refer children for examination and advice irrespective of their financial status. The clinics are free and are in the form of case findings and follow-up of former Gillette Hospital patients.

The spring schedule for 1949 is as follows:

St. Cloud	March 19	Technical High	Stearns Benton Sherburne
Faribault	March 26	High School	Rice Goodhue Scott Dakota
Thief River Falls	April 2	High School	Pennington Marshall Red Lake Roseau Kittson
Worthington	April 9	High School	Nobles Jackson Pipestone Cottonwood Murray Rock
Grand Rapids	April 23	Senior High	Itasca Cass
Austin	April 30	Central High School	Mower Freeborn Steele Dodge
Detroit Lakes	May 7	High School	Hubbard Mahnomen Becker Clay
Moose Lake	May 14	High School	Aitkin Cook Carlton Pine Lake
Brainerd	May 21	Franklin Junior High	Crow Wing Wadena Mille Lacs Todd Cass Aitkin
International Falls	June 4	Alexander Bake	Koochiching
Morris	June 11	High School	Stevens, Grant Pope, Traverse, Douglas, Bigstone

NURSING COURSE OPEN TO MEN

In response to the demand for male nurses to assist in the care of male orthopedic, and psychiatric patients, the University of Minnesota School of Nursing is planning to open its basic professional nursing course to men in the coming fall. The University's basic nursing training consists of a five-year program, resulting in a degree. Men admitted to the School of Nursing must have completed college courses in English, the basic biological, physical and social sciences, and the other required general education courses.

HENNEPIN COUNTY SOCIETY

As of this coming October, Dr. Robert F. McGandy will assume the post of president of the Hennepin County Medical Society. The election took place in early February. Other officers elected were: Dr. John H. Moe, first vice president; Dr. Ernest R. Anderson, second vice president; Dr. L. Haynes Fowler, and Dr. Horatio B. Sweetser, Jr., were elected to the board of directors; Dr. Thomas J. Kinsella and Dr. Donald McCarthy, board of censors; Dr. Malcolm B. Hanson and Dr. Robert L. Wilder, board of ethics. To the board of trustees were elected Dr. Arthur C. Kerkhof and Dr. Malcolm C. Pfunder. Delegates to the Minnesota State Medical Association will be Dr. James K. Anderson, Dr. Lawrence R. Boies, Dr. Ralph H. Creighton, and Dr. Willard D. White.

RED RIVER VALLEY SOCIETY

Dr. George Sather of Fosston was elected president of the Red River Valley Medical Society at the Society's annual meeting, which took place in Crookston in January. Other offices filled were as follows: Dr. K. W. Covey of Mahnomen was elected vice president; Dr. R. O. Sather of Crookston, secretary-treasurer, and Dr. Eugene Sorn of Erskine, censor.

The annual banquet was held at the Crookston Hotel preceding the business meeting. Approximately twenty-five physicians were present.

STEARNS-BENTON MEDICAL SOCIETY

At the regular meeting of the Stearns-Benton Medical Society, held in St. Cloud in January, the attending physicians voted in favor of an improved public relations program which has as its purpose informing the public about the issues involved in the problems of medical care and socialized medicine.

Speaking before the group, on the subject of socialized medicine and co-operative medical enterprises, were Dr. L. A. Vernath and Dr. J. P. McDowell. Dr. Gordon Kamman, St. Paul, discussed the role of the general practitioner in alleviating neurotic difficulties in patients. Introduced by Dr. E. J. Smitz of Holdingford was Dr. Mitrofan Smorczok of Poland, who, now that the citizenship clause has been removed as a requirement for the right to practice in Minnesota, intends to acquire the necessary training and establish practice. The meeting was presided over by Dr. L. M. Evans.

WASHINGTON COUNTY MEDICAL SOCIETY

The Washington County Medical Society held its regular monthly meeting February 8, 1949.

The meeting was devoted entirely to the consideration of the proceedings of the Grass Roots meeting in St. Louis, and no compliments were showered on the erratic Mr. Ewing. The major part of the evening was devoted to the offerings of the Speakers at the County Officers meeting January 14, and comments thereon. Pamphlets on "Medical Care in the Atomic Age" were distributed to members.

GRANTS FOR RESEARCH IN CARDIOVASCULAR DISEASE

The American Heart Association has announced that applications for fellowships and for research in cardiovascular disease are available. Application blanks may be obtained by addressing Medical Director, American Heart Association, 1775 Broadway, New York 19, New York.

The ultimate aim of the American Heart Association is to develop a continuing program of productive research within the broad field of diseases of the heart and blood vessels.

The recommendations of the Research Policy Committee were published in the *American Heart Journal* (36:463, September, 1948). These policies are subject to modification by the membership of the Scientific Council of the American Heart Association and approval by the Board of Directors.

The research program of the American Heart Association will be closely co-ordinated with that of the National Heart Institute of the National Institutes of Health, U. S. Public Health Service and with the Life Insurance Medical Research Fund.

LOWEST DEATH RATE IN 1948

The lowest death rate in Minnesota's history was recorded in 1948. Based on reports received up to February 1, 1949, the death rate for the preceding year was between 9.4 and 9.5 per 100,000 population. Not since 1921, the last record year, has the death rate been so low as 9.5. In 1947 it was 9.8. Deaths reported from all causes during 1948 numbered 27,689. Births recorded for the same period totaled 72,500. The all-time high was 75,469 births in 1947.

Woman's Auxiliary

BROOKINGS REPORT AMONG FIRST TO REFUTE EWING

Mrs. Elmer Rusten

"It is apparent that the United States under its voluntary system of medical care has made greater progress in the application of medical and sanitary science than any other country."

This conclusion is one that physicians and others interested in maintaining the present methods of medical care have been voicing ever since the first Wagner-Murray-Dingell bill made its appearance on the legislative scene. But the quotation does not come from a physician, nor from anyone connected with the medical profession. It is point two in the "Conclusions and Recommendations" of *The Issue of Compulsory Health Insurance,* an impartial, factual study made and published by the Brookings Institution at the request of Senator H. Alexander Smith.

Senator Smith, chairman of the Subcommittee on Health of the senate committee on Labor and Public Welfare, asked the Brookings staff to make the survey because of the number and complexity of the health bills being presented in congress.

Findings of the Institution matched the not-always-fact-supported beliefs of those who favor the democratic way of furnishing and obtaining medical care.

When the fact-sifting was over, the Brookings people found themselves committed by logic to the following:

That the draft rejection statistics are "unreliable as a measure of the health of the nation"; that conditions in extremely poor sections of the country could not be helped by subsidies—some form of economic transfusion is needed to cure the basic ills of these communities; that the people who are unable to pay for adequate medical care now would not be able to do so under compulsory health insurance either because "they would lack the means to attain and maintain an insured status."

Brookings experts also warn that governmental regulation and control of medical care would necessarily result in lowered quality of care at an increased cost (in tax dollars); that the government would inevitably come between the doctor and his patient.

They point out that the issue for the large majority of American families is "not whether they can afford medical care but whether they should be compelled by law to pool their risks." By way of explanation, the report adds that this large majority is able to pay for medical care—it is just a question of "giving it a high priority among the several objects of expenditure."

The Brookings report is by no means entirely negative; the researchers do not stop with disapproving the compulsory health insurance plan; they have alternative suggestions for action:

"For the time being the national government and many of the state governments may well devote their resource and energies to: (a) Research and developments in the field of public health; (b) Health education at the school level; (c) Teaching of preventive medicine; (d) Assisting in the acquisition of physical facilities and training of personnel; (e) Providing systematic care for the indigent and medically indigent."

AUXILIARY STRESSES MEDICAL INSURANCE

Need for voluntary prepaid medical and hospital insurance was stressed at a roundtable discussion of the Red River Valley Medical Auxiliary, held January 18 at the home of Mrs. A. R. Reff. Particular attention was given to the plans of Blue Cross and Blue Shield, now in operation.

Mrs. C. L. Oppegaard reported on the Health Day held in Crookston last October 7, and Mrs. C. G. Uhley and Mrs. M. E. Janssen reported on the recent state Tuberculosis Essay contest and judging.

The session was held following a dinner with the Medical society at Hotel Crookston.

PARK REGION GROUP STUDIES TUBERCULOSIS

Mrs. H. B. Thompson

"Tuberculosis, a Problem," a talk by Miss Margaret Breen of the Minnesota Public Health Association, led off discussion at the January 25 meeting of the Park Region Medical Auxiliary at Fergus Falls. Individual members of the organization are assisting the mobile x-ray units in their own communities, it was noted.

Prior to the discussion, the women were entertained at tea by Mrs. Glenn Mouritson.

AUXILIARY SPONSORS TUBERCULOSIS TALKS EIGHTEEN YEARS

Mrs. David Halpern

The Woman's Auxiliary of the Minnesota State Medical Association has concluded its eighteenth year of sponsoring the high school speaking project on tuberculosis with the donation of two trophies and ten medals.

The project was conducted by the Minnesota Public Health Association, in co-operation with radio station WCCO. An estimated 10,000 high school students prepared talks on "What You Can Do About Tuberculosis" during November and December as an educational feature of the Christmas Seal campaign.

Local judges selected three scripts from each school to be submitted for state judging and the scripts were presented locally before the high school assemblies and adult audiences; in some cases they were broadcast on local radio stations.

The state committee of judges chose ten winning scripts, eight from the senior high school division and two from the junior high school division. These ten authors were introduced in interview programs over WCCO December 11 and 18, E. A. Meyerding, M.D., executive secretary of the Minnesota Public Health Association, conducting the interviews. Mrs. H. F. Wahl-

quist, president of the Auxiliary, presented the Senior High School trophy on the final broadcast.

Thomas Wahl of Cathedral High School, St. Cloud, won the senior division trophy for his school, and Bernard T. Johnson of Franklin Junior High School, Brainerd, the junior division.

The complete list of winners is as follows:

Senior High Schools

First Place Plaque Winner: Thomas Wahl, Cathedral High School, St. Cloud.

Second Place: Gertrude Rath, Loretto High School, Caledonia.

Honorable Mention: Ruth Weber, St. Francis High School, Little Falls; Rosemary Mahoney, Good Counsel Academy, Mankato; Janet Jefferson, Monroe High School, St. Paul; Lois Gravos, Central High School, Red Wing; Arlyn Reinhart, New Ulm High School, New Ulm; Nancy Jane Noreus, Cloquet High School, Cloquet; John Smith, Little Falls High School, Little Falls; Eilen Heerdt, Bird Island Public Schools, Bird Island; Lorraine Hoyhtya, New York Mills High School, New York Mills; Marilyn Prozinski, St. Francis High School, Little Falls; Joseph M. Yaeger, Milaca High School, Milaca; Catherine Meyer, Marshall High School, Marshall; Patricia Hoolihan, St. Joseph's Academy, St. Paul; Burton Wyss, Greenway High School, Coleraine; Juliana Welle, St. Francis High School, Melrose; Lois Kruckeberg, Blooming Prairie High School, Blooming Prairie.

Junior High Schools

First Place Trophy Winner: Bernard T. Johnson, Franklin Junior High School, Brainerd.

Second Place: Ray Salo, Washington Junior High School, Duluth.

Honorable Mention: Patricia Faust, St. Francis High School, Little Falls; Andres Gnifkawski, Cathedral High School, St. Cloud; Susan Kjerner, Rochester Junior High School, Rochester; Loralee Lewis, Central High School, Crookston; Barbara Bossue, Franklin Junior High School, Brainerd; Ronald Duthals, Stillwater Junior High School, Stillwater; Delores Boucher, St. Joseph's Academy, Crookston.

NEW OFFICERS FOR SOUTHWEST AUXILIARY

Mrs. W. G. Benjamin of Pipestone is the new president of the Southwestern Minnesota Medical Auxiliary. Other newly elected officers are: Mrs. David Halpern, Brewster, president-elect; Mrs. John O. Lohmann, Pipestone, vice president; Mrs. Gerrit Beckering, Edgerton, secretary-treasurer.

COMMITTEE TO ANSWER NURSING QUESTIONS*

BETTY FOLEY, *Chairman, Enrollment of Student Nurses, Minnesota Nurses Association.*

What is nursing? How do I become a nurse? How often can I get home? What kind of nursing will I do when I graduate?

These are the questions most frequently asked by the high school student who is trying to make a vocational choice. The Minnesota Nurses Association, realizing high school students' and graduates' need for information, formed a committee on Enrollment of Student Nurses to inform the public about the nursing profession and to

*This report was prepared by Miss Foley at the request of Mrs. Bernard O'Reilley, Emergency Nursing Chairman.

assist the prospective student in preparing herself for her education.

Unfortunately the "nurse in white" dream of many a person melts with the knowledge of school and professional qualifications for nursing: A girl or boy must be a graduate of an accredited high school, must be between the ages of eighteen and thirty-five, in good health, with personal characteristics favorable to nursing and a number of special aptitudes.

Before a student enters school, he or she takes a standardized test. Admission records are studied, a personal interview held and, finally, the candidate's abilities, capacities and character traits are summarized. The school then makes a decision, guiding those suitable into nursing and suggesting other vocations to those who do not seem fitted for the nursing profession.

Once accepted, the student must choose again because there are four types of schools: the school of practical nursing; the three-year curriculum leading to a certificate of nursing and registration; the four-year curriculum leading to a bachelor of arts or bachelor of science degree; and the five-year curriculum which results in the degree of bachelor of science in nursing education or public health nursing. Each type of education prepares the person for some specific position: bedside nurse, hospital nurse, supervisor, army or navy nurse, research nurse, instructor, administrator—even housewife.

More specific information about nurses and nursing may be secured from local hospitals or the Minnesota Nurses Association, 2395 University Avenue, Room 310, Saint Paul, 4.

AUXILIARIES LAUDED IN HEALTH JOURNAL

Minnesota's Health, published by the Minnesota Department of Health, observed in its January issue that medical auxiliaries of the state were co-operating in the educational and fund-raising campaign of the American Heart Association.

Auxiliaries noted specifically were: East Central and Southwestern Minnesota, Hennepin, Mower, Nicollet-Le Sueur, Ramsey, St. Louis, Stearns-Benton, Olmsted-Houston-Fillmore-Dodge and Washington counties.

NEW MSMA PRESIDENT GREETS AUXILIARY

Ernest M. Hammes, M.D.

One of the most important heritages of any president of the Minnesota State Medical Association is the knowledge that during his term of office he will have the advice and co-operation of the Woman's Auxiliary.

I don't think that there has ever been a time when the Auxiliary was thought of as "just another women's club"; from its beginning the association's better half proved itself to be a courageous, forward looking, industrious group of women. And we of the association have constantly before us new examples of the Auxiliary's progressive character — Health Days, public speaking, campaigns for various medically connected organizations, public relations activities stemming from conferences like the PR Workshop last September.

Perhaps we don't express our admiration often enough, so may I take this opportunity to extend to you the grateful appreciation of the Minnesota State Medical Association and my personal thanks for the work you have done and the work which we expect of you this year, as scientific medicine confronts the threat of increasingly questionable legislation.

One thing should be strongly emphasized. Streptomycin is not an overnight cure-all for tuberculosis. Like other valuable drugs, such as penicillin and sulfonamides, it has its assets, limitations and liabilities. It must not be considered as a substitute for sanatorium care, rest in bed and other well-established methods of treatment, such as collapse therapy and other surgical procedures.—Karl H. Pfuetze, M.D., *Diseases of Chest,* (Sept.-Oct) 1948.

In Memoriam

WILLIAM J. DAILEY

Dr. W. J. Dailey, for twelve years a practicing physician at Blooming Prairie, Minnesota, died suddenly January 9, 1948, of a cerebral hemorrhage at his home in Oakland, California.

William Dailey was born February 12, 1884, at Hudson, Wisconsin. He attended Hamline Medical School and obtained his medical degree from the University of Minnesota in 1911. After an internship at Ancker Hospital, Saint Paul, he began practice in Blooming Prairie. In 1925 he moved to Oakland, where he has since practiced. Planning to spend his last days in Blooming Prairie, he purchased a home there. He found the climate of Minnesota too vigorous for his impaired health, however, and moved back to Oakland.

On September 30, 1913, Dr. Dailey married Anne Hanchy. She and their two daughters, as well as two brothers and one sister, survive him.

FREDERICK ARTHUR DRAKE

Dr. Frederick A. Drake, a practitioner at Lanesboro, Minnesota, for fifty-one years, passed away January 31, 1949, after an illness of five years.

Dr. Drake was born July 8, 1870, at Rushford, Minnesota, the son of the late Mr. and Mrs. Charles Drake. He obtained his medical degree from the University of Minnesota Medical School in 1896, and interned at St. Joseph's Hospital, Saint Paul.

Beginning practice at Lanesboro in 1898, he became active in the life of the community in a manner that made him an important civic figure. He served as mayor of Lanesboro for many years, was a member of the school board, city health officer, and physician for the Chicago, Milwaukee Railroad.

Dr. Drake married Nellie F. Rafferty of Peterson, Minnesota, on November 22, 1899. He died on March 29, 1948. He is survived by a son, Charles, of Lanesboro, and one brother, Dr. Charles R. Drake, of Minneapolis.

JOHN HENRY WALLINGA

Dr. J. H. Wallinga, of Saint Paul, was killed in an automobile accident on February 8, 1949. His wife and her brother, Mr. E. M. Stern of Fargo, were seriously injured in the accident.

Dr. Wallinga was born in December, 1889, in Hull, Iowa. He graduated from the University of Minnesota Medical School in 1919. He has practiced in Saint Paul since graduation and at one time acted as police surgeon in Saint Paul.

He is survived by his wife and his son, Dr. Jack Wallinga, who recently completed his internship in Cleveland.

Of General Interest

Dr. F. J. Vollmer was recently elected president of the Winona County Medical Society.

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Dr. F. N. Grosse of Clarissa has been appointed acting health officer of his community.

* * *

Dr. Martin M. Even has opened offices for the practice of urology at 307 Lowry Medical Arts Building, St. Paul.

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Dr. David S. Thorsen has announced the opening of offices at 930 Lowry Medical Arts Building, St. Paul, for the practice of psychiatry and neurology.

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Dr. N. E. Tosseland, who recently received a fellowship at the Mayo Clinic, has established new offices in Duluth.

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Dr. E. Juers of Red Wing attended a meeting of the American Academy of Orthopedic Surgery in Chicago during the last week of January.

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Dr. W. L. Burnap of Fergus Falls spent a few days early in February in Chicago, attending a meeting of the National Council on Medical Service.

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Dr. Charles Albert Haberly, Thief River Falls, opened offices as physician and surgeon at Middle River recently.

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Dr. Al. Emond of Farmington attended the course in pediatrics offered at the Center for Continuation Study at the University of Minnesota in February.

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Dr. R. V. Gandrud, of Albert Lea, in February underwent an appendectomy which necessitated the temporary cessation of his practice.

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Dr. F. A. Lengly, recently of Isanti, has transferred his practice to St. Louis Park. Dr. Lengly had maintained offices in Isanti since last summer.

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Dr. V. L. Silver of Clarkfield marked his thirtieth year as a physician in Yellow Medicine County early this year.

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Application blanks for membership in the American Academy of General Practice may be obtained from Dr. Gilbert P. Wengel, 891 Rice Street, St. Paul.

* * *

Dr. H. M. Weber of Rochester gave a paper entitled "The Diagnosis of Early Intestinal Cancer" at a meeting of the Detroit Roentgen Ray and Radium Society which was held in Detroit early in February.

* * *

Dr. O. B. Patch, Duluth, spoke recently before the monthly meeting of the eye, ear, nose, and throat section of the St. Louis County Medical Society. He discussed "Some Aspects of Head Pains."

Dr. O. T. Claggett of Rochester attended the meeting of the Gallie Club in Toronto early last month. While there he delivered a paper on "The Indications for Schoemaker-Billroth I Gastric Resection."

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Dr. A. M. Snell of Rochester, who attended the Mid-South Postgraduate Medical Assembly in Memphis, Tennessee, recently, presented a paper on "Diagnostic Procedure in Liver Disease in Jaundiced Patients."

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In the latter part of January, Dr. W. H. Bickle of Rochester attended a meeting of the American Academy of Orthopaedic Surgeons in Chicago where he assisted with examinations.

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Dr. T. H. Seldon, Rochester, traveled to Danville, Illinois, to attend a meeting of the Vermilion County Medical Society early in February. Dr. Seldon spoke to the group on the "Value of Blood Transfusion."

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Dr. O. H. Hegge of Austin, Minnesota, is entering his fifty-sixth year as a physician. In honor of the event, he was recently presented with a certificate of life membership in the Minnesota State Medical Association.

* * *

Dr. and Mrs. F. M. Manson of Worthington sailed from Los Angeles Harbor early this year on a winter cruise to Hawaii. This is a return trip south for the Hansons, as they were there last winter also.

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Dr. J. L. Holcomb, of Marine-on-St. Croix, is vacationing at the Hotel Patricia, Miami, Florida. He reports that he is recuperating very satisfactorily from a somewhat prolonged indisposition.

* * *

Attending the Continuation Center course in obstetrics and gynecology at the University of Minnesota was Dr. Bernice Thoreson of St. Paul. The course was offered during the first week of January.

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Speaking on the subject "The Surgery of Intraspinal Lesions," Dr. W. M. Craig of the Mayo Clinic gave the annual John T. Hodgen Lecture at the meeting of the St. Louis Surgical Society during the middle of January.

* * *

As active participants in the community-wide x-ray survey which was begun in February at St. Louis Park were the following: Dr. Robert N. Barr, Minneapolis, Hennepin County Christmas Seal Chairman; Dr. Karl Pleissner, Dr. H. W. Darby, and Dr. Edmund Murphy.

* * *

Dr. John M. Grogan of Ceylon, accompanied by his father-in-law, Mr. Lloyd Stockdale, left for Daytona Beach, Florida, during the second week of February where they joined Mrs. Grogan and Mrs. Stockdale. During Dr. Grogan's absence, Dr. R. O. Burmeister of Welcome assumed his house-calls.

Dr. Edward Detjen, formerly of Robbinsdale with offices in Minneapolis, has now started practice at the Big Fork Hospital where the need for a local physician has been severe for some time.

* * *

Dr. and Mrs. Wallace Lueck, formerly of Minneapolis, moved recently to 2939 York Avenue in Robbinsdale. Dr. Lueck, however, continues his practice at the Nicollet Clinic.

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Dr. E. E. Wollaeger, Mayo Clinic, attended a meeting during the first week of February in Johnson, Tennessee, where he spoke on "Pancreatitis" to members of the Tri-County Medical Society and the staff of the Veterans Administration Hospital.

* * *

Dr. J. Emery Frank, formerly of Marshall, has established a new practice in Salt Lake City, Utah. Before leaving Marshall, Dr. Frank turned his patient files over to Dr. Kenneth Peterson.

* * *

Dr. Benjamin Spock, chief psychiatrist of the Rochester Child Health Project, spoke at a public meeting sponsored by the Minnesota Mental Hygiene Society at the University of Minnesota in January. His subject was "A Pediatrician Looks at Mental Health."

* * *

The Sioux Valley Medical Association announced last month that over 200 physicians from Minnesota, Iowa, Nebraska and South Dakota attended the annual convention which was held at Sioux Falls.

Dr. L. G. Idstrom spoke recently on the topic, "X-Ray Physics and Electrical Circuits of an X-Ray Machine" at a meeting of the Arrowhead Society of X-Ray Technicians. Dr. Idstrom is an associate radiologist at the Swedish Hospital in Minneapolis.

* * *

Dr. O. M. Heidberg, of Worthington, delivered a talk on "Group Practice of Medicine," in February, to a senior group of medical students at the University of Minnesota. His talk marked the third year Dr. Heidberg has spoken for the senior class. He was teaching fellow at the University's department of internal medicine from 1936 to 1938.

* * *

Dr. F. W. Walter, of International Falls, spoke at a meeting of the Border Registered Nurses Club in February. His discussion centered about the causes and effects of leprosy. Dr. Walter accompanied his talk with slides of Korean lepers which he took while serving in the Pacific theatre of war.

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An innovation in the method of treating thigh bone fracture has been developed by Dr. John H. Moe and Dr. Harry B. Hall, both of Minneapolis. The two physicians presented a paper on their work before the sixteenth annual meeting of the American Academy of Orthopaedic Surgeons which was held in Chicago late in January.

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On January 27, Dr. and Mrs. H. H. Young of Rochester left on a sixteen-day cruise of the Caribbean. Sailing on the flagship *America*, the Youngs left from New

York, beginning a trip which carried them through San Jaun, Puerto Rico, Trinidad; and, return, via Havana, Cuba.

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Dr. Miland E. Knapp, associate professor of physical medicine at the University of Minnesota, and Nellie Gorgas, superintendent of St. Barnabas Hospital, spoke last month in Minneapolis at a meeting of Crippled Child Relief Inc.

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Giving a report of his experiences as medical observer of the Bikini Atom Bomb experiment, Dr. Asher White of Minneapolis spoke recently at the Messiah Lutheran Church to members of the men's clubs of both the Messiah Lutheran and Our Saviour's Lutheran Churches.

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Dr. A. B. Rosenfield, acting Medical Director of Health Unit Six, delivered a talk on Child Health at the Coon Rapids Farm Bureau Meeting on January 20. Dr. Rosenfield accompanied his talk with movies on child diseases.

* * *

Dr. C. F. Code of Rochester attended the Conference of Metabolic Interrelations, sponsored by the Josiah Macy, Jr. Foundation of New York City, recently. Dr. Code delivered a paper on "Determination of Gastric Secretory Inhibitor Activity and Its Occurence in Gastric Juice and Gastric Mucin."

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Dr. H. L. Williams, Mayo Clinic, attended the Section of Otolaryngology and Opthalmology of the Houston Academy of Medicine in Texas early in February, speaking on "Changing Concepts of the Treatment of Sinusitis," and "Diagnosis and Treatment of Ménière's Disease."

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In the third week of January, Dr. N. W. Barker of Rochester attended a meeting of the Josiah Macy, Jr. Foundation Conference on "Blood Clotting and Allied Problems" in New York City. His paper, "Surface Effects on Coagulation," was presented before the Conference.

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In response to an invitation extended by the Egyptian government, Dr. G. J. Thompson, head of the section in urology, Mayo Clinic, left in January to give a short course of instruction at the University of Cairo. Dr. Thompson was accompanied by his wife and young son on the trip to Egypt.

* * *

Dr. Harry W. Christianson and Dr. Robert J. Jenner have announced their recent partnership. They have taken over the practice of the late Dr. Harry F. Bayard and are located at 420 Medical Arts Building, Minneapolis. Their practice is limited to surgery and diseases of the intestinal tract.

* * *

Dr. O. L. Pearson of Warroad had an unusual call last month when he was asked to help an injured workman in Northwest Angle. Dr. Pearson was flown to the scene of the accident where he treated the workman, before both patient and physician were flown back to Warroad.

* * *

Secretary of Defense, James E. Forrestal has recently appointed Dr. F. J. Braceland of Rochester as a member of the Armed Forces Medical Advisory Committee, whose principal function at the present time is the co-ordination and unification of the medical services in the armed forces.

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Dr. O. B. Mork, Jr., of Worthington, delivered a talk in Pipestone on February 22 which launched the Second Southwestern Minnesota Health Day. Dr. Mork, Medical Director of State Health Department District Five, reviewed in his morning "keynote" talk the health progress which has been made during the past year.

* * *

Dr. George Haggard of Minneapolis celebrated his ninety-third birthday on January 18. Though Dr. Haggard finds it necessary to reduce his medical activities more and more, he has not relinquished his practice entirely; thereby gaining the title of Minnesota's oldest practicing physician.

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Attending a meeting of the Chicago Neurological Society were Drs. W. M. Craig, J. W. Kernohan, and H. W. Woltman of Rochester. Each spoke: Dr. Craig, on the "Surgery of Intraspinal Lesions"; Dr. Kernohan, on "The Pathology of Spinal Cord Tumors"; and Dr. Woltman, on "Intramedullary Tumors of the Spinal Cord and Gliomas of the Intradural Filum Terminale."

Sixty-three public health centers have been approved to date for Federal aid under the National Health Program. Total Federal funds of more than $107,000,000 have been allocated to hospital construction projects under this program, to cover the cost of a total of 645 hospital and health facilities.

* * *

Dr. Ralph L. Estrem of Fergus Falls received a leave of absence from the Estrem Clinic recently in order to augment his training in x-ray and internal medicine. Dr. Estrem and his family will make their residence in Minneapolis during the period required for his postgraduate studies.

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The first memorial lecture in honor of the late Dr. Luthard M. Bergh of Montevideo was presented on February 16 at the University of Minnesota by Dr. A. C. Ivy, physiologist of the University of Illinois. The talk, delivered at the Minnesota Museum of Natural History, was sponsored by the Minnesota Medical Foundation.

* * *

Dr. Katherine A. Nye was honored earlier this year when the Ramsey County Medical Society presented her with an award designating her the outstanding practitioner of Ramsey County. Dr. Nye and her sister, Dr. Lillian Nye, have maintained practices in this area since their graduation from the Medical School of the University of Minnesota—graduating in 1915 and 1921, respectively.

At the Mid-West Cancer Conference, which was held in Wichita, Kansas, during the third week of January, two papers were presented by Dr. Talbert Cooper of Rochester. His subjects were: "Diagnosis of the Leukemias and the Lymphoblastoma Group" and "Recent Advances in the Treatment of the Leukemias and the Lymphoblastoma Group."

* * *

Dr. W. F. Kvale of Rochester presented a talk in January on the "Diagnosis and Treatment of Occlusive Arterial Disease" before the Sioux Valley Medical Association in South Dakota. Accompanying him on the trip was Dr. R. L. Parker who also presented a paper: "Management of Acute Myocardial Infarction with Emphasis on Anticoagulant Therapy."

* * *

Dr. J. Edwards of Rochester attended two meetings in Washington, D. C., during January: The Army Institute of Pathology and the Committee of the American Heart Association, for the establishment of a registry on cardiovascular pathology. He delivered a talk before the former group, speaking on "Pathology of Coarctation of the Aorta."

* * *

Of sixty-four medical men now employed as teachers at the Army Medical Department Research and Graduate School in Washington, D. C., three are from Rochester, Minnesota. They are: Drs. Wallace E. Herrell, Jesse L. Bollman, and K. G. Wakim. The course, open

only to medical men, is teaching the basic sciences on the graduate level for physicians in training in the Army Medical Department Professional Training Program.

* * *

Dr. James C. Crabtree has moved from Princeton, Minnesota, to Bessemer, Alabama, where he will be associated with two other physicians on the staff of the United States Pipe and Foundry Company. There will be adequate opportunity also for him to maintain a private practice. Dr. Crabtree was associated with Dr. A. T. Kapsner at the Princeton Clinic.

* * *

Dr. Corwin Hinshaw is leaving his position on the Mayo Clinic staff to become clinical professor of medicine at Stanford University, Palo Alto, California, as of April 1, 1949. Dr. Hinshaw visited Los Angeles in January in order to present lectures for a course on pulmonary disease, sponsored by the American Trudeau Society.

* * *

It was announced the first of the year that Dr. J. A. Sanford, in partnership with Dr. Norton Rogin, had relinquished practice in Farmington, continuing solely at the Orchard Lake office—both of which establishments Drs. Rogin and Sanford run in association. They will continue to operate and care for their patients together at Sanford Hospital, as in the past.

* * *

Dr. R. W. Keyes, originally of Pipestone, moved his residence and practice to Hastings in January in association with Dr. R. C. Radabaugh. Dr. Keyes, a graduate of the University of Minnesota Medical School in 1946, interned at the Mercy Hospital in Chicago before completing his residency at the Mercy Hospital in Janesville.

* * *

Dr. Robert Semsch of Minneapolis was named county physician of Hennepin County in January to replace Dr. Charlotte Morrison whose term, held since 1940, expired on January 1. Dr. Semsch's duties will include medical services to the Home School for Girls, the Glen Lake Home School for Boys, and the Vince Day Center for Children.

* * *

Dr. Randolph Lee Clark, Jr., former Mayo Foundation Fellow in Surgery, was appointed recently as dean of the University of Texas Postgraduate School of Medicine in Houston. Dr. Clark, associated with the Foundation from 1935 to 1938, has in recent years been director of the M. D. Anderson Hospital for Cancer Research in Houston.

* * *

Dr. C. M. Niles, practicing physician in Forest Lake, was the object of a freak accident late last month which cost him a broken hip. While asleep in his home, a large truck crashed into Dr. Niles' home, throwing him some several feet into his yard. Aided by Dr. J. A. Poirier, Dr. Niles administered self-treatment, whereupon he was rushed to St. Barnabas Hospital, Minneapolis.

* * *

Dr. Robert Hunt of Fairmont was named chairman of the Martin County Nursing Advisory Board of 1949 at the regular meeting of the board on February 7. Elected as board members were: Dr. A. H. Schmidt of Triumph, and Dr. A. C. Burmeister of Fairmont. They were elected to fill the vacancies left by Dr. John Campbell and Dr. Robert Bailey.

* * *

Grants of $209,838 by the National Cancer Institute to support laboratory and clinical research in cancer were announced in January by Oscar R. Ewing, Federal Security Administrator. Grants of $1,319,000 for cancer control, as well as research, which were also recommended by the National Advisory Cancer Council, were offered in December.

* * *

The American Hearing Society has announced that a scholarship of $100, known as the Coralie Noyes Kenfield Scholarship for Teachers Training Courses for Teachers of Hard-of-Hearing Adults, is available for a prospective hard-of-hearing teacher. Applications should be submitted before March 1, 1950, to the Society at 17 14th Street N. W., Washington 5, D. C.

* * *

Drs. C. F. Lake and C. W. Rucker attended a meeting of the Sioux Valley Eye, Ear, Nose and Throat Academy late in January; the former presenting a paper: "Mucoceles and Pyoceles of the Frontal and Ethmoid Paranasal Sinuses"; the latter giving a talk: "Some Affections of the Optic Nerves." Dr. Lake also spoke at the Sioux Valley Medical Association. His paper was entitled "Diagnosis of Chronic Sinusitis."

Among the thirty-eight Minnesota physicians attending the Center for Continuation Study, at the University of Minnesota, course for specialists in ophthalmology were the following: Dr. Joseph Benedict Gaida, St. Cloud; Dr. Reginald Salter of Minneapolis; Dr. Ervin Thaddeus Rechlitz of Albert Lea; Drs. George L. Loomis and F. J. Vollmer, Winona; Dr. M. E. Mosby of the Long Prairie Clinic; Dr. T. R. Fritsche of New Ulm.

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Late in January it was announced that Dr. M. J. Lester of St. James would begin practice in Madelia in association with Dr. H. E. Coulter. Dr. Lester, a graduate of Macalester College, has attended the University of Louisville in Kentucky, and his internship was completed at the Swedish Hospital in Minneapolis last November. During World War II he served as a pharmacist's mate in the United States Navy.

* * *

Elected as a member of the Inter-urban Academy of Medicine of Duluth and Superior late in January was Dr. Ralph Papermaster of Two Harbors. The Academy, one of the oldest of its kind in the United States, has been in existence since 1894. Dr. Peterson, a member of the staff at both St. Luke's and St. Mary's Hospitals, also serves as staff member at the Two Harbors Hospital.

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At the University of Minnesota's Center for Continuation Study, February 17 and 18, classes were held for lay students concerning the latest developments in cancer. Heading the faculty for the school were Dr. Arthur H. Wells of Duluth, president of the Minnesota Division of the American Cancer Society, and Dr. Harold S. Diehl, dean of the Medical School at the University of Minnesota.

* * *

Speaking on "Tuberculosis and Its Control," Dr. Karl Pfuetze, Superintendent of the Mineral Springs Sanatorium at Cannon Falls, recently addressed a public meeting sponsored by the Dakota County Nursing Service jointly with the Lakeville Health Council, at Lakeville. The talk was preliminary to a county-wide Mantoux testing program which will begin this spring.

* * *

Speaking at the thirty-ninth annual dinner of the Jewish Family and Children's Service on January 12 was Dr. Maurice Walsh, psychiatric consultant to the United States Surgeon General. Dr. Walsh spoke on "Family Problems and Their Effect on the Children in the Home." Known for founding the counseling clinic in Rochester, Dr. Walsh has been a member of the Mayo staff since 1934.

* * *

Attending the courses at the Center for Constinuation Study at the University of Minnesota on Heart Disease, which were offered during February, were Dr. and Mrs. A. R. Reff of Crookston. Lecturing at the Center were Dr. Paul F. Dwan of Minneapolis, president of the Minnesota Heart Association, and Dr. George Aagaard, acting director of Postgraduate Medical Education at the University. Discussion centered around the use of dicumarol and heparin drugs.

The United Public Health League, organized among a group of northwestern states several years ago, has been maintaining a Washington office for the observation of political trends of medical interest and the dissemination of news in its Washington Letter. With the expansion of the AMA office in Washington, the need for this additional office ceases, and it has been closed. The organization will continue to operate, however.

* * *

From Arlington, Virginia, has come the announcement that Dr. Alvin B. C. Knudson, Washington, D. C., was recently appointed Chief of the Physical Medicine Rehabilitation Division, Department of Medicine and Surgery, Central Office of the Veterans Administration. Dr. Knudson is a graduate of the University of Minnesota Medical School; he later took postgraduate work in Physical Medicine at the Mayo Clinic and the Massachusetts Institute of Technology.

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According to a recent report by Dr. Frank G. Dickinson, director of the Bureau of Medical Economic Research of the AMA, there were some 199,755 living physicians in the United States on June 1, 1948. This is 17 per cent more than the 170,163 physicians shown in the 1940 AMA Directory. The population of the country has increased only 12 per cent since 1940. The physicians in Minnesota number about 4,263, as compared with 30,970 in New York, 16,069 in California and 13,307 in Illinois.

* * *

Dr. H. F. Helmholtz of Rochester spoke before the Northwest Pediatric Society in St. Paul in January, presenting a paper entitled "After-Effects of War on Children in Europe." On the previous day, Dr. Helmholtz addressed the Milwaukee Academy of Medicine, speaking on "A Year in Europe with the United Nations International Children's Emergency Fund." During the first weeks in January, also, Dr. Helmholtz spoke to the Junior Red Cross Leadership Training Institute in Minneapolis on "Health Problems of Children Overseas."

* * *

Dr. Clarke W. Mangun, Jr., a senior assistant surgeon with the Public Health Service, has been assigned to the Minnesota State Health Department to assist in the tuberculosis control work in the Twin Cities. He has had experience in the state health departments in Florida and Kentucky, and recently he received a Master's Degree in public health at Columbia University, New York. His activities here will be directed toward improving the services available to physicians in keeping tuberculosis patients under control.

* * *

It was announced on January 20 that Dr. Manley F. Juergens of Minneapolis had joined the staff of the Johnson-Haberle Clinic in Minneapolis. While with the clinic, Dr. Juergens will specialize in internal medicine and x-ray. Recently Dr. Juergens was associated with Dr. A. E. Walch of Minneapolis, before which he served with the army medical corps for two years. A graduate of the University of Minnesota Medical School in 1945, he served his internship with the Minneapolis General Hospital.

* * *

A new journal, *Fertility and Sterility*, to be sponsored by the American Society for the Study of Sterility and to be published by Paul B. Hoeber, Inc., will appear shortly. Dr. Pendleton Tompkins of San Francisco is the editor and Dr. Abner I. Weisman of New York is managing editor. Twenty distinguished authorities will constitute the advisory board. The journal will be published bi-monthly. Original papers on current topics should be sent to: Dr. P. Tompkins, 450 Sutter Street, San Francisco 8, California.

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Three physicians from Rochester who attended and participated in a meeting of the American Academy of Orthopaedic Surgeons in Chicago were: Dr. M. B. Coventry, who gave a paper entitled "Embryology of the Musculoskeletal System"; Dr. R. K. Ghormley who acted as chairman of the Committee on Graduate Education and Training in Orthopaedic Surgery and the Joint Committee to Study Postgraduate Training; and Dr. H. W. Meyerding who presented an exhibit and delivered an address to the International Society for the Welfare of Cripples.

* * *

On January 19, Dr. W. C. Alvarez of Rochester addressed the Los Angeles County Medical Association

Research Foundation on the subject, "The Importance of Research in Medicine." Later that same week, Dr. Alvarez presented a paper, "The Heredity of Nervous Diseases" to the Western Society for Psychosomatic Medicine in Beverly Hills, California. Speaking also before the Indiana Academy of General Practice later in February, Dr. Alvarez presented to his Indianapolis audience the paper "Puzzling Functional Troubles Found in Practice."

* * *

Two members of the Mayo Clinic have resigned their positions to enter private practice: Dr. P. H. Heersema plans to locate in Minneapolis; Dr. M. P. Kelsey, in Houston, Texas.

Dr. Heersema entered the Mayo Foundation in 1937, being appointed to the staff later in 1939. A consultant in a section on neurology, he was also an instructor in neurology and psychiatry.

Dr. Kelsey was appointed to the staff in 1937. After his service with the Medical Corps during the war, he returned to the Foundation as a consultant in medicine.

* * *

Dr. Vernon A. Doms has recently joined the medical staff of three physicians at the Slayton Clinic, which is to open shortly. Dr. Doms, a native of Woodstock, is the nephew of Dr. H. C. Doms of Slayton. Dr. Doms received his premedical training at Macalester College in St. Paul, taking his medical degree at the University of Minnesota Medical School. His internship was completed while he served with the United States Navy, at the United States Naval Hospital, the Columbus and Providence Hospitals in Seattle, Washington.

Other members of the Slayton Clinic staff are: Drs. O. A. Wiseness, a classmate of Dr. Doms, Dr. Roy Pierson, and Dr. C. Doms.

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On January 16, Mr. and Mrs. A. F. Wellsley, St. Paul, announced the engagement of their daughter, Joyce Mary, to Dr. James P. Lillehei, son of Dr. and Mrs. C. I. Lillehei, Edina. No date, as yet, has been set for the wedding. Both Miss Wellsley and Dr. Lillehei are graduates of the University of Minnesota. She took her Bachelor of Arts degree in speech pathology, while Dr. Lillehei attended the University of Minnesota Medical School. He is, at present, completing his internship at Minneapolis General Hospital before going into residency at the University Hospitals.

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In Easton on February 7, Dr. John J. McGroarty celebrated his sixty-ninth birthday and his fortieth year as a physician. His memory easily encompasses the horse and buggy doctor days; and, further, he is able to recall the time when St. Paul was a town of one house and Minneapolis was a town of three. Educated at secondary schools in the Inver Grove township, Dr. McGroarty attended St. Thomas College and the University of Minnesota Medical School, receiving his degree in 1907. His internship was completed at Ancker Hospital in 1908, from whence he traveled to Easton, establishing his practice there in 1909.

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General physicians from smaller cities and towns throughout Minnesota attended a three-day course in cancer, March 3-5, at the University of Minnesota's Center for Continuation Study in Minneapolis.

The course, covering the latest developments in the diagnosis and treatment of cancer, was offered by the University with the co-operation of the Minnesota State Medical Association, the Minnesota division of the American Cancer Society and the State Department of Health.

Speakers included Dr. Ira T. Nathanson, member of the Harvard Cancer Commission and assistant professor of surgery in the Harvard Medical School; Dr. David P. Anderson of the Austin Clinic at Austin, Minnesota; Dr. John R. McDonald, associate professor of pathology with the University's Mayo Foundation in Rochester, and other specialists in cancer from the University's medical faculty.

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Dr. F. A. Figi of Rochester gave three papers during the month of February: two, "Benign Tumors of the Nose and Throat" and "Malignant Tumors of the Nose and Accessory Sinuses," were given before the Memphis Society of Opthalmology and Otolaryngology. The other, delivered before the Mid-South Postgraduate Medical Assembly, was entitled "Malignant Tumors of the Pharynx and Larynx." Both meetings took place in Memphis, Tennessee.

Dr. Figi assumed his duties as President of the Ameri-

can Association of Plastic Surgeons in January, pursuant to his election to that post after the annual meeting last May.

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Two special medical lectures, open to the public, were presented March 2 and 3 at the University of Minnesota.

Wednesday, March 2, Dr. E. T. Bell, professor of pathology at the University, spoke on the "Pathology of Diabetes" in the auditorium of the Minnesota Museum of Natural History. Dr. Bell's talk was delivered under the Dr. Clarence M. Jackson lectureship, established as a memorial to the late University anatomist.

Dr. Ira T. Nathanson of Boston, gave the George Chase Christian Lecture on March 3 in the medical sciences amphitheater at the University. Dr. Nathanson spoke on "Hormonal Alteration of Advanced Cancer of the Breast." In addition to his work at Harvard, Dr. Nathanson is associated with the Massachusetts General Hospital, Pondville Hospital and the Huntington Memorial Laboratories.

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In observance of University of Minnesota Week (February 14-21), the University's 98th birthday, many Minnesota physicians co-operated in a special convocation at Northrop Auditorium, held in recognition of the work that has been done at the University's Medical School and through the University's medical facilities. At the convocation, the physicians of the University paid tribute to Mrs. George Chase Christian, who has been singularly instrumental, by her generosity, in the development of cancer facilities there. Speaking in honor of Mrs. Christian were: Dr. Maurice B. Visscher, head of the the department of physiology; Dr. John J. Bittner, holder of the George Chase Christian professorship for the last six years; Dr. Owen H. Wangensteen, chairman of the department of surgery; Dr. Karl W. Stenstrom, professor of biophysics; Dr. John L. McKelvey, head of gynecology; Dr. Ray M. Amberg, director of hospitals, and Dr. Harold S. Diehl, dean of the University's Medical School. Dr. Diehl expressed the gratitude of the patients and physicians who have benefited from the help offered by Mrs. Christian, presenting her with a "Builder of the Name" award, an award which has been conferred on but two persons previously.

HOSPITAL NEWS

According to a recent announcement of the Minnesota Hospital Association, salaries of hospital employes increased 10 per cent in 1948 over 1947. The average starting salary of general duty nurses is $204 per month, an increase of $49 over 1945 and $17 over the 1947 average. Clerks receive an average of $140; and practical nurses, $145, as compared with $132 for 1947. Salaries and employe maintenance service constitute over half the total hospital expenditures.

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As of February first, the charges for services at Ancker Hospital in St. Paul went up "as an effect of the rising cost of hospital maintenance and operation," the welfare board announced. Ambulance charges and operating room fees also rose, the price of rooms on the tuberculosis ward, however, remaining the same. The general rate of advance is $1.00 a day for rooms; $6.50 a day for rooms in contagion sections one and two; $7.50 a day for double bedrooms up to ward beds in contagion sections three and four; and $8.50 per day for single rooms in the same sections. The rates for the operating room range now from $10.00 to $35.00, and the new ambulance charge is $10.00 instead of $5.00.

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Dr. Deane W. Benton, formerly of Long Beach, California, has joined the staff of the Worthington Clinic Hospital as general practitioner. Previous to his nine months' residence in California, Dr. Benton practiced in New Ulm. Before that, he served with the armed forces. Dr. Benton and his family have established their new residence at 203 West Ninth Avenue in Worthington.

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At the annual staff meeting of St. Luke's Hospital, Duluth, Dr. S. E. Uberg was named chief of staff, succeeding Dr. Gordon C. MacRae.

Also named as officers were: Dr. P. F. Eckman, vice chief, succeeding Dr. Uberg; Dr. R. C. Pedersen, secretary; Dr. W. R. Bagley, chief of surgery; Dr. S. H. Boyer, Jr., chief of medicine; Dr. P. N. Bray, chief of obstetrics; Dr. S. N. Litman, chief of pediatrics; Dr. K. R. Fawcett, chief of eye, ear, nose and throat; Dr. M. H. Tibbetts, chief of orthopedics; Dr. W. E. Hatch, chief of urology; Dr. G. Doyle, chief of dermatology; Dr. A. L. Abraham, chief of x-ray; Dr. A. H.

Wells, chief of laboratories; Dr. F. C. Jacobson, anesthesiology.

Dr. George A. Young, Jr., professor of medicine and psychodynamics at the University of Nebraska, delivered the principal talk at the annual staff meeting.

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The annual staff meeting of St. Mary's Hospital, Duluth, was held February 3, Dr. C. O. Kohlbry, chief of staff, presiding. Following the election of officers and the administrator's report on hospital activities, Dr. John Hirschboeck, dean of the Marquette University Medical School in Milwaukee, spoke on "Present Trends in Medical Education."

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Dr. G. E. Cardle of Brainerd has been elected chief of staff at St. John's Hospital, it was announced in January. Dr. Cardle, succeeding Dr. W. E. Fitzsimons, will hold office through 1949.

The annual banquet, which was held January 14, also marked the election of Dr. A. M. Mulligan as chief of staff to succeed Dr. Cardle; and Dr. J. H. Bebder was elected secretary-treasurer to succeed Dr. Mulligan. Dr. W. W. Will, Bertha, and Dr. E. J. Simons, Swanville, spoke on socialized medicine.

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Dr. Karl Johnson has been elected chief of staff at Miller Hospital, Duluth, for the coming year, succeeding Dr. Keith Fawcett. Also named as officers were: Dr. Miriam Fredricks, vice chief of staff, and Dr. Earl Barrett, secretary. Elected as members of the Executive Committee were Dr. Fawcett and Dr. Henry Jeronimus. Dr. Mario Fischer was elected ex-officio member.

Lecturing on Russia's "Aims and Dreams" was Dr. R. J. Peiper of the Duluth Branch of the University of Minnesota.

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Elected as chief of staff of the Eitel Hospital recently was Dr. James Blake of Hopkins who succeeds Dr. Wallace Nelson of Minneapolis. Dr. Alton C. Olson, Minneapolis, was elected as assistant chief of staff, succeeding Dr. Alfred Baker. Re-elected as secretary was Dr. Melvin B. Sinyken.

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At the annual staff meeting of the Loretto Hospital, New Ulm, Dr. O. J. Seifert was elected chief of staff. The same honor was bestowed on Dr. Carl J. Fritsche at the Union Hospital annual staff meeting in the same locale.

Receiving secondary posts at Loretto Hospital were: Dr. Wm. A. Black, vice president, and Dr. Albert Fritsche, secretary. Comparable posts at the Union Hospital were accepted by Dr. Theodore R. Fritsche and Dr. F. H. Dubbe, respectively.

* * *

Named as chief of staff at St. Barnabas Hospital, Minneapolis, on February 8 was Dr. Clarence E. Arlander of Minneapolis who has served with the staff since 1936. Dr. Arthur C. Kerkof was elected vice chairman; Dr. Edgar A. Webb, secretary. Dr. Owen F. Robbins, the retiring chairman, will retain his duties as a member of the Executive Committee.

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St. Mary's Hospital in Detroit Lakes, a hospital of sixty beds and fifteen bassinets, was approved during the week of February 3 by the American College of Surgeons. One of nearly 80 per cent of American hospitals to be approved, St. Mary's has been praised for her efficiency and progress in organization and control. Notable among the hospital's accomplishments have been the improvement of working conditions and the reduction of the hospital death rate from approximately 50 per cent down to 3 or 4 per cent at the present time.

At the annual meeting of the Red Wing City Hospital, it was proposed that a project of unity be undertaken between the City Hospital and St. John's Hospital, which is situated in Red Wing also. Most local doctors work in both hospitals; thus, it was asserted, a sharing of skilled hospital specialists by the two institutions would greatly facilitate the service to the public.

As regular business of the meeting, the election of staff officers was held. Dr. R. V. Sherman was elected president of the medical staff. He holds the position of secretary at St. John's Hospital also. Elected as vice president was Dr. L. A. Steffens; as secretary, Dr. J. F. Brusegard; and as members of the Executive Committee, Drs. R. B. Braves, R. F. Hedin, and W. W. Liffring.

* * *

Miller Hospital in St. Paul has accepted its first woman intern—Dr. Regine Arnow, a graduate of the University of Minnesota Medical School last June. Dr. Arnow plans to be married shortly to John T. Hoag, a graduate of the University of Michigan Law School, following which she hopes to enter the Children's Hospital in Detroit to serve her residency.

* * *

The Children's Hospital in St. Paul marked its twenty-fifth anniversary early this year. The hospital, now affiliated with the Graduate School of the University of Minnesota, a handsome modern building, began its life in a comparatively unattractive manner. Dr. Walter Ramsey, medical director, saw the need many years ago for an institution which could care for the Northwest's tuberculous children. He had seen such an institution successfully and beneficially operated in Switzerland, and was determined, thereby, to serve the same need here. The financial problem was alleviated but slightly, however, by an unconvinced St. Paul. In 1924, Dr. Ramsey opened a fifteen-bed hospital in an old frame house, paying for the enterprise with funds donated by the few persons who had faith in the project. It was merely a matter of months before the idea proved itself to be a good one. Consequently, in 1927 the present building was constructed. In 1944 another wing was added; and this hospital has the present distinction of being the only one in the Northwest to care for children's diseases from birth to adolescence.

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Dr. John Hirschboeck, dean of Marquette University Medical School, spoke last month at the annual staff meeting of St. Mary's Hospital, Duluth, to the effect that medical schools are carrying the burden of an enlarged enrollment which will not be relieved until the G.I. physicians are graduated and the regular rate of trainees is re-established. He stressed also that the need for medical men necessitated such overcrowding.

Election of officers resulted as follows: Named as chief of staff was Dr. M. A. Nicholson, succeeding Dr. C. O. Kohlbry. Dr. R. P. Buckley was elected chief of staff-elect, and Dr. R. H. La Bree, secretary. Dr. A. J. Spang was named chief of surgery; Dr. R. E. Nutting, pediatrics; Dr. E. L. Touhy, laboratories; Dr. C. W. Taylor, communicable diseases; Dr. Archie Olson, eye, ear, nose and throat; Dr. P. G. Bowman, medicine; Dr. A. O. Swensen, obstetrics; Dr. F. H. Elias, orthopedics; Dr. O. E. Sarff, urology; and Dr. F. T. Becker, dermatology.

* * *

The new hospital at Ely, Minnesota, is rather unique in that its past includes thirty-four years of serving as a school building, and, recently, a thorough-going remodeling job was done in large part by volunteer labor on the part of Ely and Winton citizens eager to have a local hospital. The new institution is the materialization of many years of planning and working on the part of Dr. O. E. Snyker of Ely.

It is a forty-bed hospital, equipped with modern facilities, with much of the present equipment a carry-over from the building's old school days: the bookcases are now supply shelves; and much of the furnishing is material which was salvaged from the War Assets Administration. Work which had to be done at cost was paid for, largely, by donations—small and large—made by local citizens, many of whom have been educated in the building.

Dr. Snyker's medical career began at the University of Minnesota Medical School and his medical training was completed at Loyola University in Illinois, where he graduated in 1934. During the last war, Dr. Snyker served as a Flight Surgeon in the European theatre—at which time, he states, the details of his hospital plan were worked out.

BLUE SHIELD NEWS

Blue Shield Participants Subscribers covered by contracts in effect as of January 31, 1949.....115,968
(Figures used for previous reports were for Blue Shield applications received as of a given date. The present figure reports persons covered by contracts actually in effect.)
Blue Shield cases paid from January 1 to January 31, 1949..1,522
Amount paid on Blue Shield cases from January 1 to January 31, 1949.....$56,561.68

During the past few months the Blue Shield office has received an increasing number of inquiries from its subscribers requesting information on the benefits provided by the Blue Shield contract and the procedure for filing claims for these benefits. The usual tone of such inquiries is that the attending physician has told the patient to call the Blue Shield office for this information. It is realized that the furnishing of such information is partially the responsibility of Blue Shield office personnel and telephone calls emanating from local subscribers are easily and satisfactorily answered.

However, the out-of-town subscribers have rather a different problem in that they either must write to the Blue Shield office for information or obtain it from the local doctor or the doctor's office personnel. If the information obtained from the doctor's office is insufficient, the patient may get the idea that the Blue Shield contract is not particularly valuable; therefore, there is no need for the potential subscriber to join Blue Shield, nor for the present subscriber to continue his Blue Shield contract. It holds true now just as much as it always has in the past that the doctor is a leading citizen in his community and is looked upon as an oracle on all subjects. Few people remember that the doctor is a very busy man and perhaps does not have the time to read every piece of literature coming into his office, including Blue Shield literature.

Recently, on a trip around the state, a few examples of erroneous information were brought out. However, the opportunity to correct this information was welcomed, and it was also a very great pleasure to learn that the greater percentage of the doctors were well informed on the Blue Shield plan.

As a review, the remainder of this article is devoted to the benefits a Blue Shield subscriber receives and also to some pointers on the processing of medical claims.

Medical care, as distinguished from surgery or maternity care, is provided only if the patient is hospitalized to receive this care. Benefits will be allowed up to twenty-one days in any twelve-month period for the treatment of the same condition. No benefits are allowed for medical care in the doctor's office, the clinic, or the patient's home.

Benefits for surgery are provided regardless of where it is performed, the doctor's office, the patient's home, in the hospital out-patient department, or in the hospital. This also holds true in the setting of fractures, the manipulation of dislocations, the application of casts for corrective purposes, any casts applied to a fracture other than the initial one, the suturing of lacerations, debridement of burns, and skin grafts.

Benefits for obstetrical deliveries are allowed either at home or in the hospital, if the mother is covered by a family Blue Shield contract that has been in effect for ten consecutive months. The Blue Shield allowance of $50.00 for a normal delivery or $100.00 for a cesarean section is only for the delivery and care of the mother and child during the period of confinement. The doctor is at liberty to charge for any prenatal care or postnatal care not covered by this allowance.

Benefits for x-rays up to $15.00 are allowed if taken by or under the supervision of a doctor of medicine who is not compensated by a hospital, and if related to medical, surgical, or obstetrical services covered by the Blue Shield contract.

Payment is made for the administering of anesthesia when given by a doctor of medicine who is other than the surgeon and also is not a salaried hospital employe.

Benefits are provided for tonsillectomies and adenoidectomies performed on minor dependents covered by a

family contract, provided that contract has been in effect for ten consecutive months. Persons covered as a single subscriber do not have a waiting period for this type of surgery since it is possible that a person under nineteen years of age may be employed and thus have his own Blue Shield contract. In these cases there is not the ten-month waiting period requirement for tonsillectomies. Maternity benefits, however, would not be allowed for a single subscriber contract.

A few tips—Blue Shield payments are made every Friday on cases received the previous week. Thus the greater percentage of cases are paid in less than two weeks from the patient's discharge.

When completing the Blue Shield forms, please describe the extent of surgery whether simple or compound, sub-total or total, unilateral or bilateral. This added information helps expedite the case.

If in doubt on a case, send the information to the Blue Shield office, and it will be given consideration with the thought in mind of giving the subscriber the maximum allowance provided by his contract.

Every physician is familiar with the processing of Blue Shield claims for hospitalized patients, the claim being originated in the Blue Shield office and sent to the attending physician for necessary information and return. However, for patients treated outside the hospital, it is the doctor's responsibility to initiate the report and submit it to the Blue Shield office. Every effort is made to keep a supply of these forms in the doctors' offices. An additional supply will be distributed in the very near future.

Recently the question of Blue Shield-Blue Cross providing benefits for diagnostic work performed in the hospital Out-Patient Department has come up. Blue Cross will make no allowance for any hospital expense incurred for diagnostic work on a non-hospitalized patient, nor would any Blue Shield allowance be made for the services of a doctor of medicine in this diagnostic procedure since such services would be classified as medical care rendered to a non-hospitalized patient. However, if the attending physician feels that the patient should be hospitalized for diagnostic study, observation, et cetera, Blue Cross would make its usual allowance for hospital services. The attending physician will also receive Blue Shield benefits for the medical care rendered the patient while hospitalized.

The Blue Shield office will be glad to supply any additional information, and in the event any professional group or county medical society desires a representative of the Blue Shield office at any meeting, such personnel will be readily available.

The strength of Minnesota Medical Service, Inc., lies with its originators, the medical doctors of Minnesota. Their assistance in helping to keep the Blue Shield subscriber fully informed and aware of Blue Shield's value will assure its continued success.

TELEPHONED NARCOTIC ORDERS

(Continued from Page 292)

the person filling such an order, as well as the person issuing it, may be charged with violation of the law.

6. Addiction alone is not recognized as an incurable disease. It is well established that the ordinary case of addiction yields to proper treatment, and that addicts can remain permanently cured when drug taking is stopped and they are otherwise physically restored to health. The so-called reductive ambulatory treatment of addiction has never been sanctioned or approved for the reason that when the addict controls the dosage he will not be benefited or cured.

7. Treatment of addiction, with a view to effecting a cure, which makes no provision for confinement while the drug is being withdrawn, is a failure, except in a relatively small number of cases where the addict is possessed of a much greater degree of will power than that of the ordinary addict.

CANCER FILMS AVAILABLE

The Minnesota Division, American Cancer Society, has announced the purchase of a new film for professional audiences entitled "Cancer . . . The Problem of Early Diagnosis." This film, which is the first in a series, is designed to show that the family physician offers the only immediate hope of reducing the annual toll of more than 180,000 deaths from cancer. Five succeeding films will give more detailed treatment to breast, intra-oral, lung and esophageal, gastro-intestinal, and skin cancer. The series is sponsored jointly by the American Cancer Society and the National Cancer Institute of the U. S. Public Health Service.

A review of this film appeared in the January 20 issue of the *Journal of the American Medical Association*, page 328. It is now available to professional groups on a free loan basis. Bookings will be arranged in their order of receipt in the office of the Minnesota Division, 622 Commerce Building, Saint Paul 1, Minnesota.

BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical Libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

HANDBOOK OF DISEASES OF THE SKIN. Richard L. Sutton, M.D., Emeritus Professor of Dermatology and Syphilology, University of Kansas Medical School, and Richard L. Sutton, Jr., M.D., Associate Professor of Dermatology and Syphilology, University of Kansas Medical School. 749 pages. Illus. Price, $12.50, cloth. St. Louis: C. V. Mosby Co., 1949.

LES MÉTRITES DU COL. Etude Anatomo-Clinique. Nouveaux Traitments. Pierre Durel, Médicin de l'Hôspital Saint-Lazare. Collaborators, Lucien Dutheil, Ancien interne de'Hôspital Saint-Lazare, and Hubert Autrand, Ingénieur, I.E.N. 332 pages. Illus. Price, 650 fr., paper cover. Paris: Masson et cie, Editeurs, 1949.

PREMATURE INFANTS. A Manual for Physicians. Children's Bureau Publication No. 325. Ethel C. Dunham, M.D. 401 pages. Illus. Price, $1.25, paper cover. Washington: Government Printing Office, 1948.

HUMAN RELATIONSHIPS IN PUBLIC HEALTH. A Report of an Institute on Mental Health in Public Health. Geddes Smith. 18 pages. Price, 15c, paper cover. New York: Commonwealth Fund, 1949.

DOCTORS OF INFAMY. The Story of the Nazi medical crimes. Alexander Mitscherlich, M.D., Head of the German Medical Commission to Military Tribunal No. 1, Nuremberg, and Fred Mielke. Translated by Heinz Norden. 172 pages. Illus. Price $3.00, cloth. New York: Henry Schuman, 1949.

CAMPBELL'S OPERATIVE ORTHOPEDICS. Second Edition. J. S. Speed, M.D., editor; Hugh Smith, M.D., associate editor. 2 vols., 1643 pages. Illus. Price $30.00, cloth. St. Louis: C. V. Mosby Co., 1949.

SAFEGUARDING MOTHERHOOD. Sol T. DeLee, M.D. Clinical Instructor of Obstetrics and Gynecology, University of Illinois; Attending Obstetrician at Chicago Maternity Center; Former Associate in Obstetrics and Gynecology, Cook County Hospital. 135 pages. Illus. Price $2.00, cloth. Philadelphia: J. B. Lippincott Co., 1949.

CLINICAL CASE-TAKING. Fourth Edition. George R. Herrmann, M.D., Ph.D., Professor of Medicine, University of Texas. 240 pages. Price, $3.50, cloth. St. Louis: C. V. Mosby Co., 1949.

EMOTIONAL MATURITY: THE DEVELOPMENT AND DYNAMICS OF PERSONALITY. Leon J. Saul, M.A., M.D., Associate Professor of Psychiatry, Temple University School of Medicine; Special Lecturer in Psychiatric Information, Bryn Mawr College. 338 pages. Illus. Price, $5.00. Philadelphia: J. B. Lippincott Co., 1947.

This book of 338 pages, including five pages of references and a nine-page index, deals with the emotional maturity of man. It shows what emotional maturity is, how it is normally achieved, and how its achievement in one respect or another is often prevented or distorted. It shows how important are the early childhood environmental influences, especially in the home. It also shows how the persistence in adult life of immature childish reaction patterns can, under emotional stress, lead to psychoses, neuroses, psychosomatic ailments, and personal or social behavior disorders.

The first half of the book is excellently organized and written. The second half is repetitious in many places, is based too much on military experience during the second world war to be of as great interest to a civilian physician as it might be, and is therefore somewhat of a letdown after having read the first half.

On the whole, the book is well worth reading by any physician who wishes to understand his patients better as persons, rather than just as cases. Also, it is sufficiently understandable for others who deal with people, such as lawyers, ministers, and social workers.

HERBERT BUSHER, M.D.

ANATOMICAL CHARTS. Frank Netter. Summit, New Jersey: Ciba Pharmaceutical Products, 1949. Price $6.50.

Physicians, from time to time, have been receiving anatomical charts from Ciba Pharmaceutical Products, prepared by Dr. Frank Netter. Now 191 of these full-color plates, showing common pathological lesions combined with x-ray pictures and photomicrographs, with explanatory text, have been printed in book form and may be obtained for $6.50, the cost of printing and binding. A check for this amount mailed with order to Ciba Pharmaceutical Products, Inc., Summit, New Jersey, will bring this valuable collection to your desk.

Classified Advertising

Replies to advertisements should be mailed in care of MINNESOTA MEDICINE, *2642 University Avenue, Saint Paul 4, Minn.*

INTERNIST, Medical Arts Building, Minneapolis, Minnesota, wishes to sublet portion of office space, with use of complete laboratory, basal metabolism, and electrocardiogram machines, and fluoroscope. Arrangements can be made for part-time use of entire space. Address E-136, care MINNESOTA MEDICINE.

WANTED—Assistant in general practice, Southeastern Minnesota town, with general hospital. $400.00 a month plus car for business purposes. Address E-138, care MINNESOTA MEDICINE.

SURGEON—Desires location, preferably clinic or association. Fully qualified; also has experience in gynecological, genito-urinary and thoracic surgery. Address E-137, care MINNESOTA MEDICINE.

OPPORTUNITY to specialize in Ophthalmology. Two-year preceptorship in Minneapolis oculist's office. Both basic and clinical phases of specialty presented under supervision. Satisfactory financial arrangements. Medical background of applicant desired. Address E-139, care MINNESOTA MEDICINE.

WANTED AT ONCE OR SOON—Internist willing to assist in surgery. Address E-140, care MINNESOTA MEDICINE.

FOR SALE—Large, well-established general practice at cost of equipment. Office and equipment set up, ready for immediate use, including x-ray, fluoroscope and diathermy. Community of 1900 population, 40 miles from Twin Cities, needs another physician. Address E-141, care MINNESOTA MEDICINE.

WANTED—GENERAL PRACTITIONER in established clinic in town of 12,000. Good hospital facilities. Address E-142, care MINNESOTA MEDICINE.

WANTED—Young physician and surgeon in town of 600 located in stable, diversified, thickly settled farm area. Businessman will furnish free rent, also financial aid to give good man start. Write Carl W. Dahlquist, Secretary Commercial Club, Verndale, Minnesota.

FOR SALE—Complete x-ray equipment in good condition; also Victor electrical treatment apparatus. Time to pay, if desired. Make me an offer on all. Address E-132, care MINNESOTA MEDICINE.

WANTED—M.D. trained in obstetrics and pediatrics to join new clinic now being organized in central Iowa town of 7500. New air-conditioned, ground floor offices. Write E-128, care MINNESOTA MEDICINE.

YOUNG, GENERAL PRACTITIONER desires location in small town with hospital facilities. Address E-129, care MINNESOTA MEDICINE.

WANTED: Superintendent for 20-bed hospital in city of 2500 in western Minnesota. Address E-125, care MINNESOTA MEDICINE.

FOR SALE—Physician's practice, including office equipment and furniture. Office space with dentist available. Write Mrs. Gerald C. Roskilly, 3413 Hennepin Avenue South, Minneapolis 8, Minnesota. Telephone: LOcust 5504.

FOR SALE—Well-established general practice in Saint Paul, Minnesota. Centrally located, recently vacated. Office and equipment available immediately. 519 Hamm Building, Saint Paul 2, Minnesota.

WANTED—Assistant Medical Director, Southwestern Minnesota Sanatorium, Worthington, Minnesota. Unusual opportunity for one interested in treatment and control of tuberculosis. Single man preferred. Write or apply in person.

RESIDENT PHYSICIAN—Opening for two Resident Physicians, March 1 and July 1, 1949. Mixed residency, excellent preparation for general practice. Salary $300 a month and maintenance, or $300 a month plus three-room apartment. Address inquiries Administrator, St. Luke's Hospital, Saint Paul, Minnesota.

FOR RENT—Physicians' air-conditioned offices, bungalow type, to be available soon, in Highland Park, Ford Road near Cleveland, Saint Paul, Minnesota. Telephone Dr. Aaron Moses, ELkhurst 0465.

FOR SALE—Medical equipment including Picker X-Ray. Good opening for General Practice. Call afternoon for appointment. George H. Schlesselman, M.D., 320 East Main Street, Anoka, Minnesota. Telephone: 121.